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# PC home

## MAKING MOVIES!

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**MICRO PROSE**

tactics, leadership. Bay Watch this isn't.

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## COVER FEATURE



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## Making Movies!

**54** Take one PC, add a camcorder and a video capture card and you're ready to go digital. Make short clips, films and dramas, then digitise them for display on the perfect home cinema vehicle – your PC. Make adverts for a club, make movies to entertain, but most of all you'll need to follow our step-by-step guide, and then read on for hints and tips on shooting a production and attempting more ambitious productions. Mark Ulyatt and Andy Shaw are cameraman and PC operator, standing by to show you how.

## SUBSCRIPTIONS

How would you like the luxury of having PC home hand-delivered to your door? Can you really afford to miss our current subs offers? Go on, turn to page 80

## REGULARS

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- 11** Disk Help
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- 152** Write home

## CREATIVE COMPUTING



### Emulate this

**65** Did you own a Sinclair Spectrum? Maybe a Commodore 64, BBC model B or Atari? Did you know that these are now available as small emulation programs for your PC? Will Sargent and the PC Home team reminisce about the 8-bit glory days

### Wired up

**71** Pete Hawley provides a guide to the Internet and CompuServe, de-mystifying the jargon and offering enlightenment on the strange world of online computing

### Penny publishers

**75** Does your DTP budget stretch any further than £100 for the software only? Didn't think so. This is why Andy Shaw has taken time out to look closely at the sub-£100 market

## COMPETITION



**30** Our main feature tells you how to put together a digital film, using only a camcorder and video capture card attached to your PC. Here's a chance for you to win one of three Video Spigot cards from Creative Labs

### The price is right

Unless otherwise stated all the prices quoted in the editorial pages are inclusive of VAT and are correct at the time of going to press.

## WHAT'S NEW

### Newsline 21

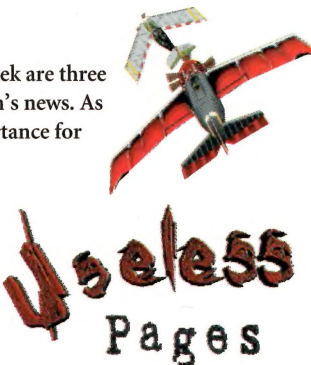
**21** Will Sargent visited Earl's Court for this year's Windows 95 show. He found new products aplenty, and tells of them alongside his regular dollop of industry gossip

### Games News

**27** Mindscape, Blue Byte and Gametek are three companies featured in this month's news. As ever, he's first out with anything of importance for the discerning games fan out there

### net.stuff

**28** Pete Hawley reveals his information overload problem, having spent far too long perusing the floating volumes of the Internet



### Don't be a Dummy

**33** The Dummies range of books covers over 30 computer-related topics. With over 9 million copies in print, Mark Ballard wants to find out what makes them the best-selling reference guides in town

### CD Now

**39** Seven products: The Myth of the Ten Lost Tribes, Isaac Asimov's The Ultimate Robot, Vid Grid, Aviation, Romeo and Juliet, Complete Multimedia Bible and Jumpstart Kindergarten

### Shareware

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# nts

## FAMILY PC

### Retro classroom

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### Knowledge thirst

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### Craft project

**90** Kerry Culbert gives her son a say in this summer's holiday destination, by helping him to use some child-proof creativity software on her family PC



## WORKSHOP

### Troubleshooter

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### Programming

**150** Wayne Russell continues his exploration of the intricacies of QBasic with a look at SUBs and functions – it's all about producing tidy code

## MEGADISK and CD-ROM

### HD contents

**8** Those who enjoy navigating endless, underground tunnels will revel in our demo of *Dungeon Master 2*. The sequel to one of the most popular role playing games of all time has you romping the dark chambers again, with your fearless party of elves, wizards, warriors and weirdfolk.

There's also a shareware version of the Commodore 64 emulator, on top of which we give you a selection of the best games available throughout the '80s. Turn back the clock and remember just how chunky the old graphics really were, with classics such as *Uridium*, *MULE*, *Donkey Kong* and more.

### CD-Rom contents

**12** Highlights include a fully-playable demo of *X-Com: Terror from the Deep* and *Stardust*, arguably the best blasteroids game yet. We go sporting crazy with *Premier Manager 3*, *Scottish Open Golf* and *Links* (CD-version). In our new *PC Home Gold* section we pick out the most important cover disk demos of recent months. First up are *Dark Forces* and *Descent 1.1*.

On the edutainment front Attica Cybernetics provide high brow material with a superb demo of *Romeo and Juliet*, and for budding landscape artist and cartographers, *Land Explorer* beautifully renders those 2-D maps as 3-D fractal landscapes.



## GAMES arena

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## HOME OFFICE

### Warp speed

**133** Windows 95 has been delayed and then delayed again. In the meantime, IBM are stalking the 32-bit operating system market with their OS/2 Warp product. Lance Concannon discusses whether this offering is worthy of your attention

### Risc PC

**135** Andrew Pewsey doesn't take two computers into the living room, he just takes his two-in-one Risc PC from Acorn. Can an Archimedes and a PC live under the same bonnet, and does this open up the world of National Curriculum software to frustrated PC parents?

### Buyers' guide

**139** It's your in-depth guide to the latest prices for inkjet printers and low-cost lasers. If you need to add that printing peripheral to your home PC setup, check out these prices first





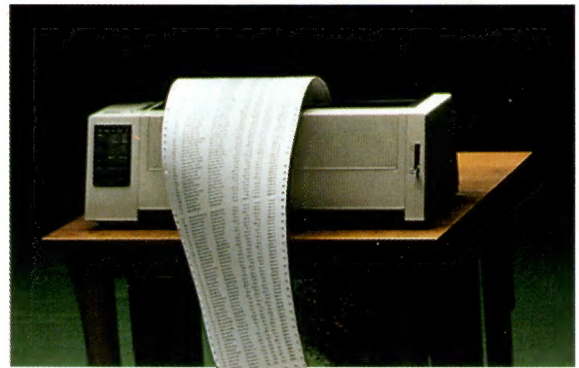
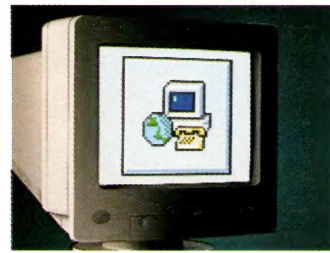
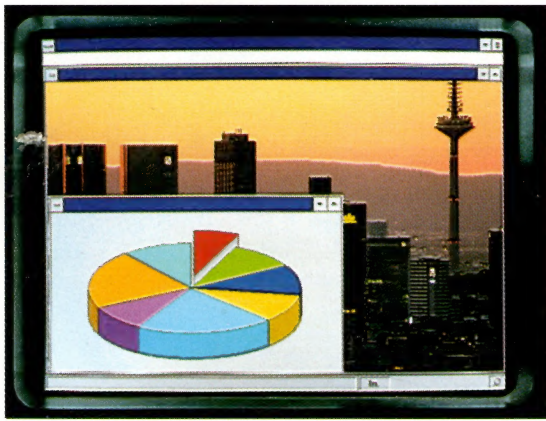
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# HD MEGADISKS

## The best in software for your home PC

### Dungeon Master 2

FTL'S *Dungeon Master* was arguably the most absorbing RPG ever made. It was something new for Atari ST owners and although the scenery didn't move quite as smoothly as the 3-D engines of today, it didn't matter because the interface and gameplay were so good.

It's eight years on from the first game and now, we are very proud to bring you a demo of the sequel – *Dungeon Master 2*. To run it insert the

appropriate disk and type PCHOME C. This is the only game on the disk so select it and let the files cross to the hard drive.

Make sure you have freed up a bit of EMS memory, otherwise you will receive an error. If you are unsure how to do this then check that your CONFIG.SYS file contains the line:

DEVICE=C:\DOS\EMM386.EXE 1024 RAM

or a greater figure than 1024 if you have it available.

When the game has been copied across, type DM2 in its directory and you will be shown the introductory screen. Select *New Game* and you will find yourself inside the player select area of the dungeon.

Your first task is to select your team so by using the cursor keys on the screen, or the key-



First off you must select your team of adventurers

board, move until you face a suspended animation chamber. You only need to free four players and to do this double click on the chamber and then on the release handle.

When the four members are gathered, head for the ladder to face your

first challenge. Objects can be picked up and dropped with a click of the mouse and you can also shuffle the scenery around by single clicking on any objects.

Hint – this comes in very handy in the first location.



Your next task is to try and slide your way out of this room

### Landscape Explorer

THIS program enables you to translate flat, 2-D maps into living, breathing 3-D objects which can then be rotated and viewed from any angle imaginable.

From the MegaDisk mini-menu, select it and let the files copy across to a temporary directory. Now start Windows and click on the File menu once you're in.

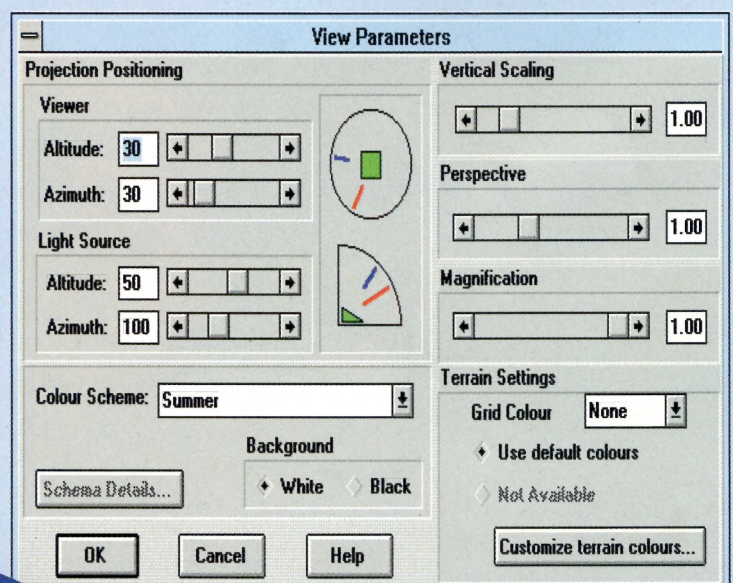
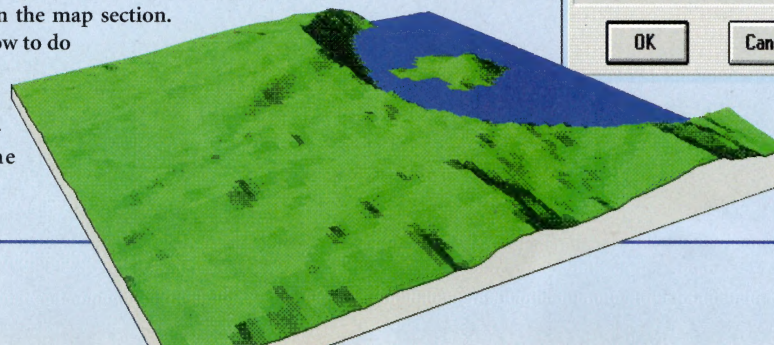
Now choose Run and type C:\LANDSET – the file you need is called Install. Choose it and a program group will be created for the program and a collection of Readme and Help files.

Click on the little yellow jeep and wait for the main program screen. It might be best to take a look at a couple of examples before you do anything else. On this disk we have got three. Choose View Map from the top menu bar and then select one of the three.

You can look at the landscape immediately, or, spin it around by using the view parameter box which is visible after selecting an image.

If you want to design your own landscape you must first design it in the map section.

Instructions about how to do this are carried in the comprehensive help file which is the far-right menu on the main screen.



Then view it from every conceivable angle, by using this control panel

Have a go at building your own 3-D world



## WHAT IF I NEED HELP?

TURN to page 11 for our complete help service to using the *PC Home* MegaDisks. If you are new to the magazine you will find an extremely basic guide to getting the programs to work.

Should you have any problems with the software, please contact the official MegaDisk helpline,

details of which are also on page 11.

You'll also find more detailed help about setting up your system to ensure you have enough resources to make the Mega CD-Rom run.

For the CD edition of the mag, turn to page 12.

## C64 Emulator

INSERT the appropriate disk and type PCHOME C to install to your hard drive. From the following mini-menu, choose option 2. This emulator is only 600k in size, and this includes the collection of classic games we have supplied with it, so don't worry about having enough available space.

The program will now load and prompt you to type CONFIG at the C prompt. Do this and then hit Enter. Check that the IRQs and DMAs match your sound configuration but if you are not sure what they are, don't worry.

Just cursor down to select *Exit and Save You* will then be left at the C prompt. From here, type C64S to run the demo, or if you want a comprehensive guide to all this program's features, type:

TYPE C64S.DOC | MORE

to list full instructions page by page and also give details on how to obtain the full working version of this superb little program.

At the blue welcome screen pressing F9 will take you to the emulator workbench. From here you can select any of the jobs this demo offers.

The games we have shipped with this program are absolute classics. To load any of them, you first need to choose either a tape or disk load. These two formats have been created from the clever software which comes shipped with the full version of the program. To load any of the disk images – Darkstar, Antiriad, Cybotron, Uridium, Creatures and Airwolf – press Alt+D and to load the tape images – Donkey Kong and Delta – press Alt+T.

When the directory screen pops up, it will show all the available programs of that format. Move the selector over your favourite oldie and hit Enter.

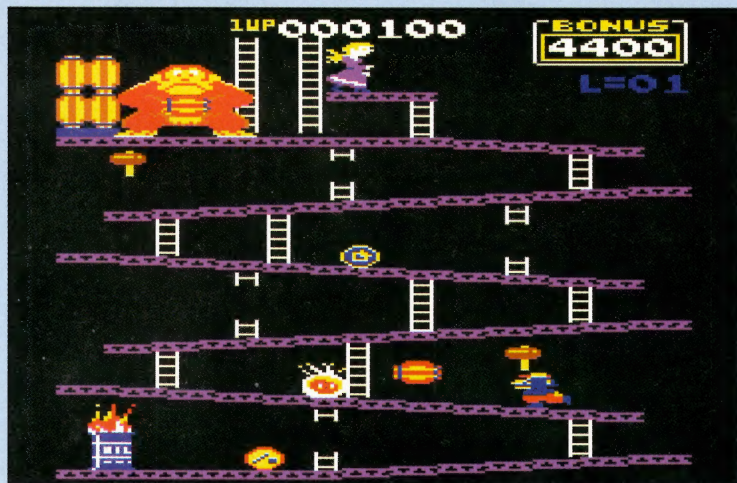
If you have selected a tape game, when you are returned to the blue screen, press Shift+Tab. If you have loaded a disk game it's a little more complicated.

First select the game and hit Enter. From the '64 start up screen, type:

LOAD"xxxx",8,1

where xxxx is the name of the program you want – check the *exact* name in the directory beforehand – then enter RUN.

You will find yourself transported back to the mid 1980s playing your old favourites to the sweet music of the SID sound chip.



Classic Commodore 64 action with Donkey Kong

# sensual



# stunning



# surreal



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# MEGADISKS HELP INSTALLATION

WITH all the PC Home software, there is an easy-to-use menu or instructions to install the programs to your hard drive simply and effectively. Just follow this guide:

- 1 Log on to the drive containing the MegaDisk by typing A: or B: depending on the drive the disk is in.
- 2 Now type PCHOME C where C is the letter of your hard drive.
- 3 You will now be presented with the Mega-Disk menu
- 4 With the menu, select the number of the software and follow any onscreen instructions.
- 5 To quit the menu at any time press 0. You can then move to the drive on which you have installed the programs.

## CD programs

IN the root directory of drive C you should have two system files autoexec.bat and config.sys. To change these files use the Dos command Edit. For example to alter the contents of the config file enter EDIT CONFIG.SYS. Generally in this file you should have the line:

```
device = c:\dos\himem.sys
```

This instructs the computer to turn all your computer's memory to extended memory.

Some programs require expanded memory to run. This is obtainable by adding the following lines in the exact order:

```
device = c:\dos\himem.sys
device = c:\dos\emm386.exe 1024 ram
frame=e000
dos = high, umb
```

The number 1,024 may be changed to a higher value, depending on how much memory your computer has. Some demos require that you do not have an expanded memory manager such as emm386, therefore you should remove this line altogether otherwise you may encounter problems while loading.

## Disclaimer

The PC Home disks are checked thoroughly at every stage of production for suitability, compatibility and functionality.

Each program supplied to you is checked vigorously with at least four independent virus checking programs such as Norton Anti Virus.

The disks, once compiled are duplicated under strict quality control and batch tested to ensure standards are maintained.

IDG Media will accept no responsibility for any damage or loss caused by their use or mis-use.

## HD Disk

SINCE we started to use the HD disk format, we have held to a policy of swapping HD disks on your magazine for a double density disk.

These days, there are very few people out there with DD disks, and as a result the demand for the disk swap service has tailed off to virtually nothing. We now receive only one enquiry per month, and the service has been withdrawn.

Sorry if you are left out by this move, but technology marches on!

## Faulty disk

THE coverdisks are thoroughly tested at every stage of production, but inevitably when such a large batch is duplicated, one or two bad ones will slip through.

You can generally tell if a disk is faulty if you encounter one of the following errors in whole or part.

```
Error reading drive
Data error
Sector not found
Read error
```

However, if you damage the disk yourself, include a cheque or postal order for £1.50 to:

PC Wise,  
Daulais Top Business Park,  
Daulais, Merthyr Tydfil,  
Mid Glamorgan CF48 2YY

**MEGADISK  
HELPLINE  
0625 858084**

# seductive



# slick



# superior



Slick 5000



Gremlin Interactive Limited,  
Carver House, 2-4 Carver Street,  
Sheffield S1 4FS, England.



# MEGA CD-ROM COLLECTION

No.19

The best in software including games, edutainment, utilities a lot more

## GAMES

### Doom Section

IN this edition of the Doom section you will find over 10 great Doom addons. These range from excellent WAD files to a convertor that changes Doom and Doom II WADs to Heretic WADs.

### Heretic Section

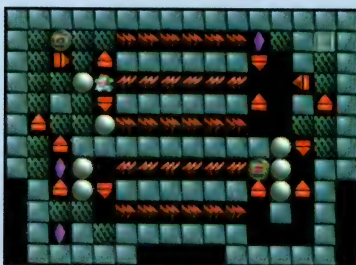
HERETIC fans haven't been left out either as there are 12 extras including new WADs for you to play plus some cheat codes.

### Links CD Demo

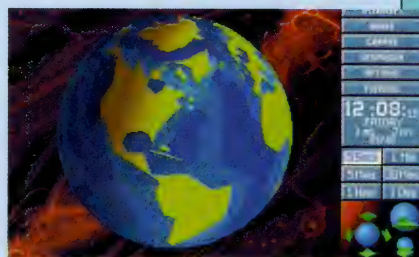
THE perfect Golf simulation deserves the perfect PC platform. Now the most award winning golf game in software history has been enhanced for CD-Rom. The new Links 386 CD features the Harbour Town course as well as the Ryder Cup venue, The Belfry. It includes an entirely new digital sound system and simulated aerial fly-bys of each hole, allowing you to assess the challenge from the air.

### Trugg v1.0

A SUPERB Dos arcade puzzle game featuring stunning fully-rendered 3-D graphics throughout, extensive in-game animation and a heart pumping soundtrack. Guide Trugg through 20 cavernous conundrums collecting treasures while avoiding boulders, guns, forcefields and guardians. The registered version includes a level editor you can use to create and distribute your own collections of puzzles.



Trugg – Get out of that one then if you can



### X-Com: Terror From The Deep

AN exclusive playable demo of the eagerly awaited follow up to UFO. After being defeated on land the extraterrestrials are back to wreak havoc from beneath the sea. In this demo you get to take command of the highly trained PC Home team and take on a small selection of filthy alien invaders.

### Goal '94

TAKES you right in to the heart of soccer team management, with selection of the squad and choice of tactics, in considerable detail. Watch every game your team plays and adjust players' positioning and tactics in response to every threat. You will have to cope with injuries, suspensions, player fitness and confidence.

### Scottish Open Golf

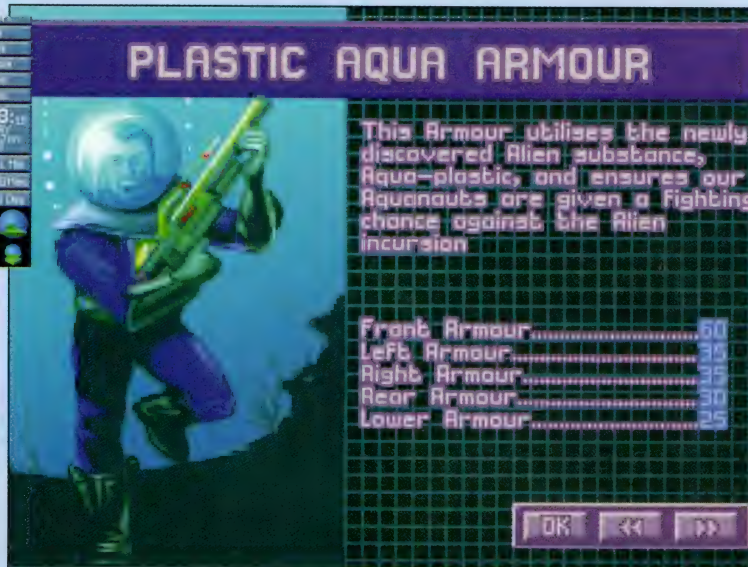
FROM Core comes this playable demo of Virtual Golf – load it up and compare it to Links. Hot graphics and a choice of celebrity players.

### NiteMare 3D

A WINDOWS game with a difference



NiteMare 3D – like Wolfenstein but runs under Windows



– along the line of a Doom style adventure. As this is a shareware of the year award winner we did not want you to miss out on this chance to see it for yourself.

### Stardust

THIS must be the best blasteroids clone so far. With bold graphics, digitised sound and asteroids of different endurance levels and colours, it's sure to provide hours of addictive fun.

### Premier Manager 3

GREMLIN'S sequel to Premier Manager 2 with all-new graphics gameplay enhancements. If you are in to football this is a product that you should not miss.

### Magic Mushroom

A FAST moving platform game with 256 VGA graphics written and supplied by one of our readers. Avoid the evil enemy toadstools while collecting bonus gems and jumping over razor sharp spikes. The gems are distributed randomly across the level. When you collect one, another appears until you have five. To make things difficult, you die if you collide with one of the grey toadstools or fall off the bottom of the screen.

### Jungle Strike

GREMLIN'S sequel to Desert Strike involves big choppers and destructive hardware. Fly around in this demo mission and experience the great sounds, animations and video sequences that really bring it all alive.



Magic Mushrooms – The first level of platform fun



Jungle Strike – Gremlin's 3-D spectacular



## UP AND RUNNING

THE programs on the CD-Rom have been categorised into two sections: Windows and Dos. Each set of programs has its own menu system. Getting it to run couldn't be easier.

### Dos programs

TO run the Dos menu move to your CD-Rom drive by typing its letter followed by a colon – for example D: and then press Return. Now you can type PCHOME, press Return, and the menu will load.

The interface will briefly examine your system and produce a report of its configuration. It will inform you of any EMS memory, a mouse installed, a SoundBlaster compatible card and how much free hard disk space you have.

At this point it is useful to make a note of the above information as some of the programs have different systems requirements.

If you are running the program for the first time you will find that it will create a directory called PCHOME on your hard drive C. This is used by the menu program to hold remove information for some of the packages. Press Return once you have read the information and a small window will appear.

Read this, press Return or click on the continue bar and another will appear. Press Return or click again and you will see the main menu.

Towards the top left of the screen is a window that displays a list of the Dos software available. Use the up and down arrow keys or click on the corresponding button (in the top right hand corner) with the mouse to move through the software.

At the bottom of the screen you will see the descriptions box which contains information about the currently highlighted program. Again, read this before selecting the program.

To exit from the menu without selecting any programs press Escape or click on Quit, and then answer yes to confirm.

If you wish to select and install one of the programs in the menu, you must highlight the required item, as previously described. Then press Return or click Select and the menu will return you to Dos in the directory in which the selected item is stored on the CD. If you experience any problems in running the Dos menu try removing your Dos mouse driver, as we have found that this is a common cause of problems.

### Windows programs

ALL the Windows programs can now be accessed from the Mag-a-Disc, which no longer needs to be installed on your system as it will now run entirely from the CD. The only thing you may wish to install is Video for Windows. The runtime version on our CD, version 1.1d, has to be installed to enable your machine to play back any video clips in Mag-a-Disc.

To run Mag-a-Disc click on File in Program Manager, click on Run and then enter the path:

D:\PCHWIN.EXE

where D is the letter of your CD-Rom drive. If you wish to install a Mag-a-Disc icon into Windows click on File, again on New, and then enter the path:

D:\PCHWIN.EXE

where D is the letter of your CD-Rom drive. If you are presented with a message something like *This may not be available during future sessions* just click OK and all will be well. The PCHWIN icon will then be created in the current group. If you wish to move it simply drag it in to the new group.

When you first run Mag-a-Disc you will be advised that there will be a short delay. The message will then disappear. After a short delay Mag-a-Disc will load and you will see the menu screen. Click on the icon or button for the section required and you will be taken there.

If you encounter any problems running the Windows software from the CD, take a look at the file HELPME.TXT which you will find in the root directory. This will supply all the information that you will need to run the Windows software independently of Mag-a-Disc.

# suggestive



# striking



# simply must race in... 3d

Conventional motor racing has yielded to the advances of thrust drive technology. Popularity for Slipstream racing is at it's peak. Successful flyers quickly become icons and heroes. Race fans flock in their millions to the circuit-side stadiums hoping to catch a glimpse of the latest anti-grav machines which defy all laws of motion. The track's prepared, the crowd are hustling for the best seats and the drivers and commentators are all psyched and hungry for action.....

**PC 3.5" and  
PC CD ROM**



Gremlin Interactive Limited,  
Carver House, 2-4 Carver Street,  
Sheffield S1 4FS, England.

Slipstream 5000





**Peter and The Wolf** – Select a character



**Push CD** – Interactive guide to the UK's finest universities



**Thumbelina** – Easy to follow edutainment pages



**WinCIM 1.3** – Select one of the many options

## GENERAL

### Romeo & Juliet

FOR education or entertainment this is a very high quality product. Coming from Attica Cybernetics and the BBC you can be sure that it will give you all of the information that you will need to make the experience of Shakespeare's famous play complete.



**Romeo & Juliet** – The main menu

### Midibak

A SHAREWARE collection of 42 punchy drum and percussion Midi backing styles. Registration brings with it a collection of 84 action packed styles, free of charge. It requires a General Midi compatible sound card. A sequencer or music software with a looping capability is an advantage – it saves the bother of replicating bars, and also on the use of memory.

### WimCIM 1.3

ALL you'll ever need to access CompuServe. The CompuServe Information Service has become a leading world wide provider of online information. Members can choose from more than 2,000 databases, information resources, communications and

transaction services. Send and receive mail 24 hours a day or join one of over 600 special interest forums.

### Peter and The Wolf

A FUN product from Time Warner Interactive that will also bring hours of entertainment to young and old alike. It's a fully interactive multimedia experience with the inclusion of digitised voices and music. Simply run your mouse over a character and it will speak to you.

### PC Xformer 2.51

AN emulator for MS-DOS users who wish to run their old Atari 400/800 and Atari 800XL software on their PCs. To run PC Xformer 2.51, type XF251 from the Dos prompt. The familiar blue and white Atari Basic screen will appear with the Ready prompt. Type in a small Basic program and you'll see it's just like an Atari 400/800 or 800XL!

### Thumbelina

OUR second offering from Time Warner Interactive. It is presented in a book style manner each page of which includes a section of this classic story. This product also contains a portion of the very high quality video that is available in the full product.

### Push CD

A MULTIMEDIA guide that will provide information about all the UK universities and their activities.

### WorldLink BBS

THE complete guide to the WorldLink BBS. This system will enable you to gain access to all kinds of software and information with the use of your PC and modem.

### Word 6

A DOS-based demonstration of this very popular Windows wordprocessor showing all its features.

### ZX81 Emulator

RELIVE those early days with our ZX-81 emulator. Remember, the syntax to load any of the games with it is LOAD "name", where the LOAD key is K.

### C64 Emulator

THERE are two versions of C64S on the CD. The first will let you load and play the tape files but not the disk games. The second plays the disk files but times out after 10 minutes' use. Read the .DOC file for help in operating the emulators.

**Remember the Mega CD-Rom also contains all the programs from the MegaDisk except for SuperDisk because of technical problems**

## PC Home Gold

A selection of the very best in cover disk demos:



### Descent 1.1

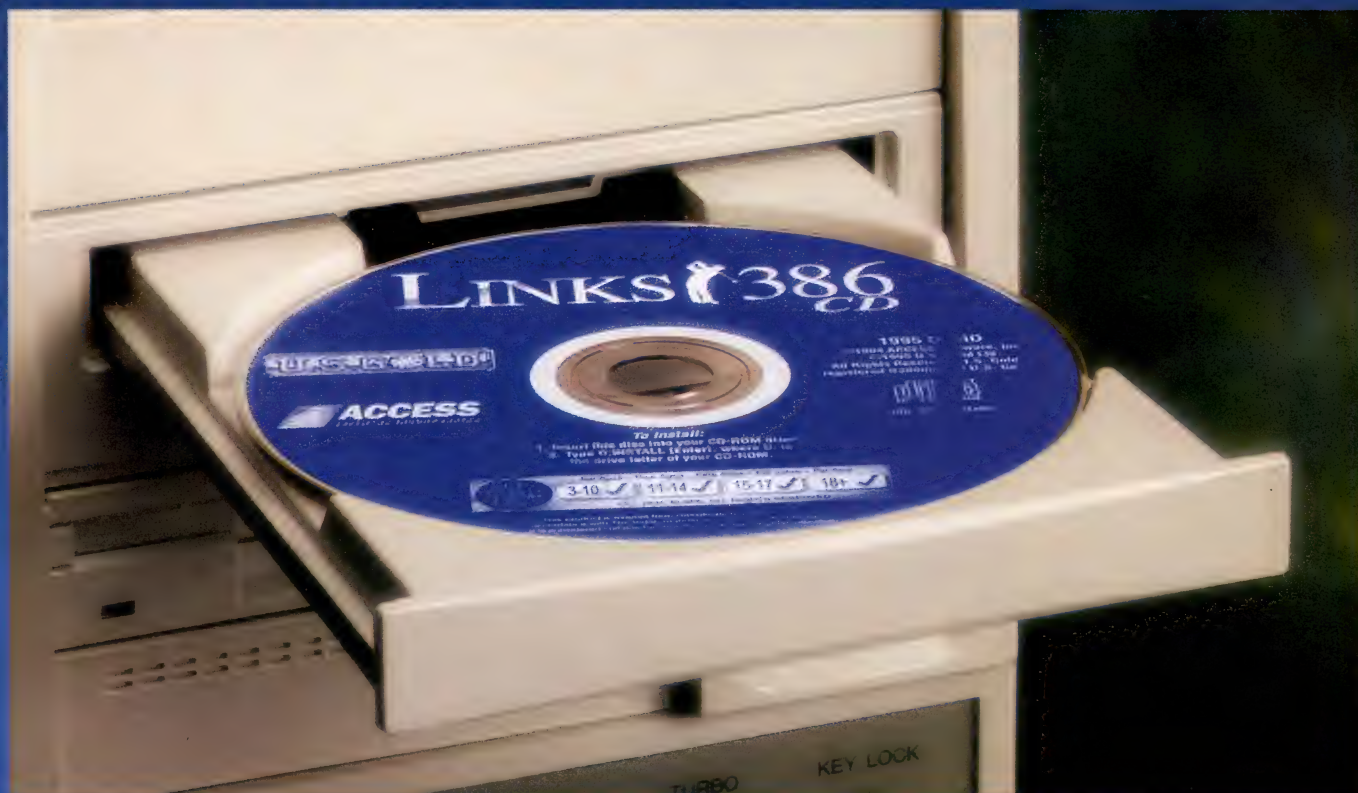
INTERPLAY'S Doom beater in space. Fly around 3-D corridors and be gratuitous to your mates. The controls are similar to Doom but you can customise them as flying in three dimensions can get a little confusing. Look out for the power-ups.



### Dark Forces

EVERY now and then there comes a game that captures the imagination of game players everywhere. Dark Forces is a Star Wars version of Doom and the demo on this disc is fully playable. Power up your light sabre and fight your way out of this level.





## ' THE PERFECT DRIVE '

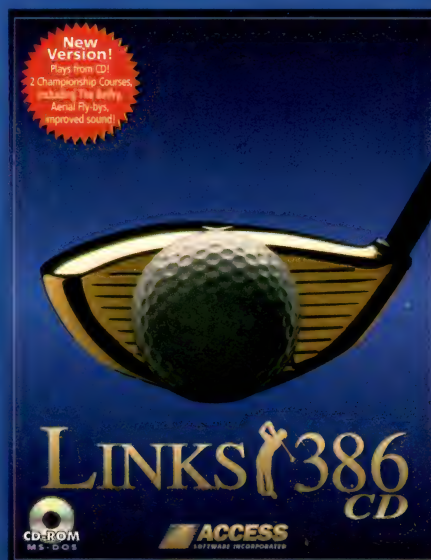


The perfect golf simulation deserves the perfect PC platform. Now the most award winning golf game in software history has been enhanced for CD.

### *The Belfry Harbour Town*

The new Links 386 CD features Harbour Town Golf Links as well as The Ryder Cup venue, The Belfry.

Links 386 CD includes an entirely new digital sound system and



simulated aerial fly-bys of each hole, allowing you to assess the challenge from the air. All other Links Championship Courses are playable with Links 386 CD, creating a complete golfing experience.



The Perfect Golf Simulation. The Perfect Drive.



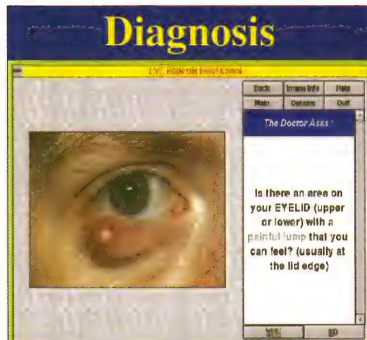
PERFECTION  
PERFECTED



Minimum Requirements: 386SX IBM PC, 1MB RAM, 10MB Hard drive space, Double speed CD-ROM drive, MS-DOS 3.1, SVGA monitor, Mouse, Sound Card recommended. Screenshots are only intended to be illustrative of the game play and not the screen graphics which may vary considerably between different formats in quality and are subject to the computer's specifications. ©1992-95 Access Software, Inc. All rights reserved. Published by U.S. Gold Ltd., Units 2-3 Holford Way, Holford, Birmingham B6 7AX. Tel: 0121 625 3300. U.S. Gold is a registered trademark of U.S. Gold Ltd. The image of Big Bertha on the front of the packaging is used with permission of Callaway Golf. Big Bertha is a registered trademark of Callaway Golf.

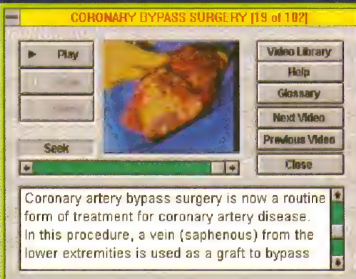


# Dr. Schueler's Medical Adviser (UK) CD



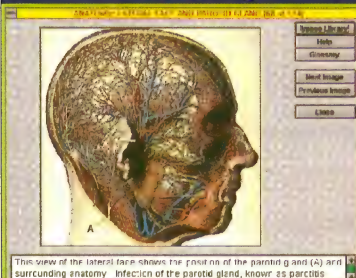
By asking you a series of simple "yes / no" style questions, the Medical Adviser will diagnose your symptoms and provide you with suitable recommendations.

## Full-Motion Video



View (and listen to commentaries on) dozens of state-of-the-art surgical procedures such as brain surgery. There are also first-aid and CPR videos.

## Anatomy



With the aid of high-resolution graphics you can explore the human body in detail. The names of all the various parts of the body are clearly labelled.

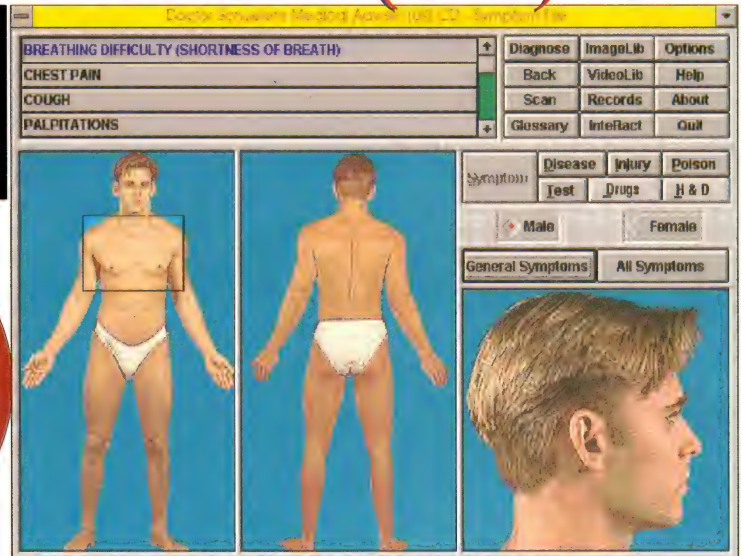
## X-Ray Images



A library of X-ray images show you the results of various conditions. You will learn the signs and clues that doctors typically look out for.

**£49**  
(fully inclusive)

**30-Day  
Money Back  
Guarantee**



*Everything you need to know about your health*

### SYMPTOMS

Easy to use question & answer format helps you to analyse your symptoms with the aid of thousands of colour images and their supporting text.

### INJURIES

Learn how to handle any injury, from burns and ankle-sprains to stab-wounds and animal-bites.

### MEDICAL TESTS

Describes in simple terms the most frequently performed medical tests. Explains how, when, and why they are necessary, and their known risks and complications.

### HEALTH & DIET

Includes extensive information on vitamins, minerals, nutrition, safety and first-aid, life-style health risks, vaccinations, weight-loss, special diets, and travel advice.

### DISEASES

Contains the latest information on the causes, symptoms, evaluation, treatment, and prognosis of over 600 diseases. There are also special sections on women's and children's health problems.

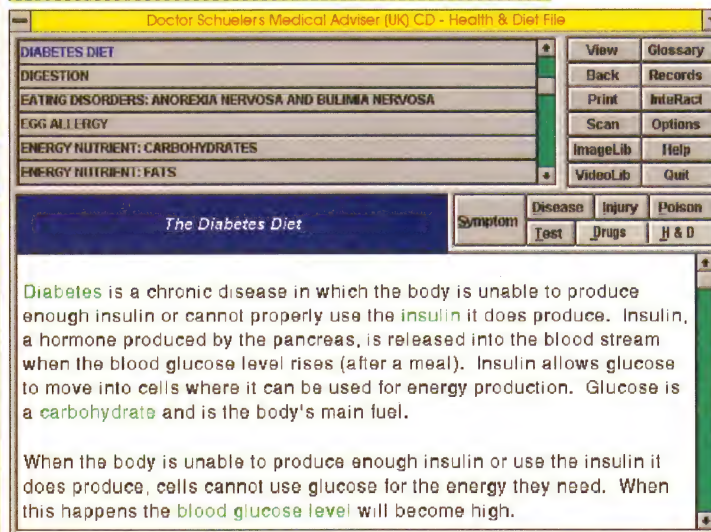
### POISONS

For over 500 household substances and products, you will learn what steps to take if poisoned by them.

### MEDICATIONS

Information on over 4,000 prescription and non-prescription drugs. Learn when and why they are used, their side-effects and interactions, and precautions that you need to take.

*Advice for the prevention,  
early detection, and  
management of illness*



*The knowledge of over 50 doctors and specialists  
.....at your fingertips*



**"A product so clearly in a league of its own as far as other CD-ROM titles are concerned.."**

Micro Mart



UK Version

### Clinical Photos

This photo shows a very swollen right wrist. Compare the sizes of the right and left wrist joints. Even the fat pads on the right hand are larger than those on the left.

A library of clinical photos show you the symptoms and effects of various illnesses, injuries, and conditions; useful for the diagnostic process.

### ANATOMY: ANTERIOR NECK AND THYROID GLAND (9 of 124)

A: Left brachiocephalic vein  
B: Aortic arch

### On-Line Glossary

Alzheimer's Disease

Alzheimer's Disease

This represents a class of medications that can powerfully stimulate the central nervous system. Prescribed for attention deficit disorder in children and narcolepsy.

If you are ever unsure of some of the terminology used in this program, you can access the on-line medical glossary at any time for instant reference.

### Medical Records

Allows you to store the medical histories (vaccinations, medications, operations, allergies, etc.) for all members of the family.

**Dr. Schueler's Medical Adviser UK** has been researched and compiled by over 50 fully qualified doctors, specialists, and consultants. Their collective knowledge and experience is condensed into one very valuable program.

This software is not intended to replace your doctor in any way. Its aim is to inform and educate you, and to help you to understand your health. It provides you with the knowledge you require in order to give yourself the best possible chance of staying fit and healthy. The Medical Adviser:

- advises you on the causes and prevention of illnesses,
- detects and diagnoses potential problems at an early stage and informs you of the precautions you should take,
- warns you when urgent professional attention is required,
- gives you the advice you need in an emergency until professional help is available.

### InterAct

Analyse interactions between any combination of medications, foods, alcohol, tobacco, etc., and get reports on the possible effects of those interactions.

- **Unbeatable.** It has the largest colour atlas of medicine ever assembled on CD-ROM multimedia.
- **Easy To Use.** User-friendly graphical interface has extensive quick-search and cross-referencing facilities.
- **Easy To Understand.** Presented in clear, ordinary language without confusing technical jargon.
- **Instant Answers.** Sound advice for frequently asked medical questions, plus analysis and diagnosis of symptoms with advice on what steps to take next.
- **Unique.** By far the best medical CD-ROM available. It is also the only product of its kind developed specially for, and published in, the UK.
- **Valuable Advice.** On-call just for you, 24 hours a day and every day of the year - at the touch of a button. No problem is ever too trivial.
- **Censor Facility.** Some images may be too graphic for young children. An option is included where you can censor those images from being displayed.
- **Up-To-Date.** The program is updated regularly (every 10-12 months) to incorporate the most recent medical developments and information.

**30-Day Money Back Guarantee**

**The ultimate maintenance manual for your body**

### ORDER FORM

Price: **£49** (inc. VAT & delivery)    Qty.    Total (£)

**Dr. Schueler's Medical Adviser (UK) CD-ROM**

Please make cheques payable to: **Health Perfect Ltd.**

If you are unsatisfied with the product for any reason, you may return it complete and in good condition within 30 days, for a full refund (less £5 for p&p).

Name \_\_\_\_\_

Address \_\_\_\_\_

Post Code \_\_\_\_\_

Signature \_\_\_\_\_    Date \_\_\_\_\_

Telephone: **(0181) 200 8897**  
Facsimile: **(0181) 200 8102**

**System Requirements**    CD-ROM Drive, 4Mb RAM, Microsoft Windows 3.1+, 386 or above, 256-colour VGA

Please post to:  
**Health Perfect Ltd.,**  
EBC House, Downsland Lane,  
London NW9 8LL.



# SOAPBOX

## Duncan Evans muses on video, OS/2 Warp and the increase in home PC sales

**T**HE latest reports on home PC sales show that the market is expanding at a tremendous rate. Figures showed that in 1994 there were 3,000 PC sales a week for the home market, with the avenues being split roughly evenly between the High Street, mail order and surprisingly, second-hand sales (27 per cent).

The majority of multimedia PCs were sold through the High Street, and largely went to first time buyers. However, second-hand and mail order sales went to people who where either upgrading and replacing their existing PC or buying a second PC to use in the home.

The end result of this is that there is a wide variety of home PC users ranging from the rank beginners to whom MSCDEX is a Roman calendar date, to experienced users who whip the lid off the machine and upgrade components without a second thought.

Your ever evolving *PC Home* is changing to reflect that diversity, with articles to help people get started, and features on power tweaks and software hints and tips, all rounded off with our usual coverage of the creative aspects of computing which make it such an entertaining pursuit for the whole family.

In this issue we have reviewed the latest incarnation of IBM's OS/2 Warp, weighing up its merits as an alternative desktop graphical user interface for the home user. IBM claim to have sold umpteen millions of OS/2, though the phrase *pre-installed on to PCs* would be more accurate.

With Warp though, the push is well under way for the home user's cash, particularly as Warp is available now and Windows 95 still hasn't come out

yet. TV adverts – which don't actually show the product – exhort the home user that there's no hour glass – that's proper multitasking for you – and that it's the perfect games playing platform.

Read our feature and you'll see that the claims fall well short of the reality. However, the effort IBM have put in could well have an unexpected side effect. Microsoft will be extremely keen to make Windows 95 as bug free, stable and friendly as possible. Warp will focus their minds on getting it right, rather than chucking the product out with rough edges and subjecting everyone to the horror of having a Windows 95.1 and more.

In theory Windows 95 is going to be great. The simple fact the Microsoft make both Dos and Windows gives them a unique opportunity to redevelop the operating system of the PC by integrating the two elements properly. That's half the reason why Windows itself has always been so relatively slow – it's a software system running on top of a software system.

Windows 95 is now at advanced Beta stage, with over 35,000 copies out for testing at the moment. Personally I've got my fingers crossed because Windows 95 should remedy all those irritating things that 3.1x can't cope with – like changing disks when using applications. For experienced users it should resolve those problems and equally for new PC users it will provide a much easier to grasp interface and make the PC seem less frightening.

Finally this month, our cover feature is all about digital video using a camcorder and your PC. Roughly 40 per cent of our readers have a cam-

corder, and most people know someone who owns one.

How easy is it to make digital films to show on the PC? Very. If you follow our step-by-step guide you'll be knocking out short clips like there's no tomorrow.

But why would you want to? After all it's easier still to film a video then copy the result on to video tape. That may be the case, but going the digital route with the PC lets you edit the video without the need for expensive equipment like having two four-head VCRs and controller equipment. Do it digitally and you won't even need a VCR at all.

The other advantage of the digital film is that you can send it to anyone with a modern PC. Imagine being the club secretary of a fishing club, chess club or any kind of pastime-based activity.

Film a 20 second promo with contact details on the end, digitise it and send it to potential club members who have PCs. All they need is Windows 3.1 since it comes with Media Player, and one viewing later they'll be hooked.

Check out the feature and find out how you can get creative with video whether you do it by yourself, with friends or involve the whole family. **PC**



## PC home

### EDITORIAL

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PC Home welcomes articles for publication. Material should be typed or computer-printed, and preferably double-spaced.

Program listings should be accompanied by disk. Please enclose a stamped self-addressed envelope, otherwise the return of material cannot be guaranteed.

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# 13 bureau

**This is one phenomena you can explain**

Do things like UFOs and ghosts really exist?  
Is there a paranormal presence in our world?

The highly classified government team of Bureau 13 know the answer is yes  
and are the first and last line of defence against supernatural forces.  
Thrilling combat sequences with variable scenarios fill this beautifully drawn  
graphic adventure in which the government have kept the widespread  
reports of paranormal activity a secret for years.  
Can you keep it that way?

**Available on PC 3.5", PC CD ROM, Amiga, and CD32**

**TAKE 2**  
INTERACTIVE SOFTWARE

GAMETEK (UK) LIMITED, 5 Bath Road, Slough, Berks SL1 3UA.

**GAMETEK**





# Got DeskJet?

Actual output from HP's DeskJet driver†  
Return-to-application at 2:49, print time 11:00

Actual output from SuperPrint's DeskJet SuperDriver†  
Return-to-application at 0:10, print time 7:58

## Print Faster. Print Better.

***"SuperPrint provides blisteringly fast output from any Windows application ..." – BYTE***

- Accelerated, optimized SuperDrivers
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†4MB PhotoCD output to HP DeskJet 560C; HP driver version 4.1; SuperPrint version 3.1; computer: 486DX-33



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Edited by Will Sargent

# newsLINE

## THE WINDOWS 95 SHOW

JUDGING from the mass of bodies clamouring for a peek at Microsoft's stand during last month's Windows 95 show, you would think they were screening either a sneak preview of the new Star Wars film or a live interview with Bill Gates.

It was neither. In fact, the hue and cry was over a demonstration of Windows 95, dancing impressively through Doom II and other applications, without a CONFIG.SYS or AUTO-EXEC.BAT file in sight.

Crowds gasped as the Microsoft presenter fitted a plug-and-play CD-Rom drive and then dropped in a disc. All were impressed as the disc span and automatically copied video driver software across and then executed all by itself. However, the spectators soon



The Microsoft stall at Windows 95 was buzzing with activity. Regular demos of Doom II and auto-loading CD-Rom products teased the thousands of spectators still awaiting their copy of Windows 95

sobered up when informed that beta-testing had pushed the release of the new version of the Windows operating system to the back-end of this year.

To leave the many gatherings of battle-hardened config-warriors thoroughly teased-off, the MS gang finished with a demonstration of a new, Windows 95-ready Timex watch, which downloaded a name and address list directly from the 95-workbench to the wrist. It was

surprising that the Microsoft exhibit was left standing.

Happiness prevailed though, with lots of promising new hardware and software launched at the show, or announced for release in the coming months.

Here are a few of the show-stealers for you to budget for.



Xara Studio is one of the first programs to take advantage of Windows 95's faster 32-bit operating environment

## XARA STUDIO

MUCH talk at the show focused on Windows 95. Xara Studio is a drawing and illustration program which uses the additional speed the 32-bit operating system will bring. It is the premier PC release from Xara (01442 350000).

Priced at £199, the program sits awkwardly between budget and full price but carries most of the technical detail you could expect from a top-end illustration product.

The program features a transparency facility, which simplifies the process of creating shading, shadows, highlights and reflective highlights.

With anti-aliasing, unlimited undo and a screen dither providing near 24-bit results from an 8-bit image, the package is set to be a popular first option for users of the faster operating system. Fortunately, through the use of special Microsoft code, the program also works with existing versions of Windows.

## Premiere production

GONE are the days when you needed an Apple Macintosh to get your hands on Adobe's (0181 606 4000) sturdy graphics applications.

Premiere 4.0 for Windows was the big news for digital video enthusiasts at the Earl's Court event. The Adobe team were digitising then cutting, pasting, twisting and turning images of the crowds gathered around their booth, to demonstrate the power of the latest version

For those in the know, the latest version provides many new professional-level features such as tiling, motion control, multiple audio and video tracks and custom filters and transition.

The upgrade for Premiere users costs just over £100.



Use any outline typeface, including Adobe's multiple master designs, to create titles. You can animate titles over time and superimpose them over any image

## DR on call

ANTI-VIRUS research specialists S&S International (01296 318700) provided a Wild West presentation for their *Magnificent (version) Seven* of Dr. Solomon's Virus basher Toolkit v7.0.

Dr. Alan Solomon told *PC Home*: "Version 7.0 now scans both inside and outside compressed files. It will examine PKZip, ARJ, PKLite and LZExe files".

With a suggested retail price of £99 for Dos and £125 for Windows, this software is invaluable for those who want to prevent any mysterious file loss or unpredicted hard disk activity.



# newsLINE



**Le Louvre  
arrives in  
English**



**Attica's new CD-Rom  
examines in-depth 40 works  
from the National Gallery**



## Art attack

TWO art-reference CD-Roms have been released this month, celebrating two of the world's most famous collections.

BMG Interactive (0171-384 7783) are distributing the anglicised version of France's best-selling *Le Louvre* from Montparnasse Multimedia. This disc has caused a sensation in France, picking up a Milia D'Or award for Art and Culture, and is likely to continue that success over here.

The disc examines the history of the Louvre Palace, from its original medieval fortress through the

Renaissance and the Cour Carree.

Close examination of works, such as da Vinci's *Mona Lisa* and Ingres' *The Turkish Bath*, is available by selecting them from the walls of a digitised model of the museum layout.

In association with new outfit Marshall Cavendish Multimedia, Attica Cybernetics (01865 791346) have produced a CD-Rom guide which concentrates on 40 artists and their painting, based on the works of the National Gallery, London.

Neil MacGregor, director of the National and presenter of the BBC2

painting program *Painting the World* enthused about the product at its launch and speaking with *PC Home*, said: "Art Galleries are intimidating places to visit. This CD-Rom offers an introduction for anyone planning a visit, and gives some prior knowledge of the collection".

Both packages offer powerful zoom features which show an incredible level of detail, down to individual brush-strokes and information about the lives and times of the featured artists. Expect *PC Home* reviews next month.

## SNIPPETS

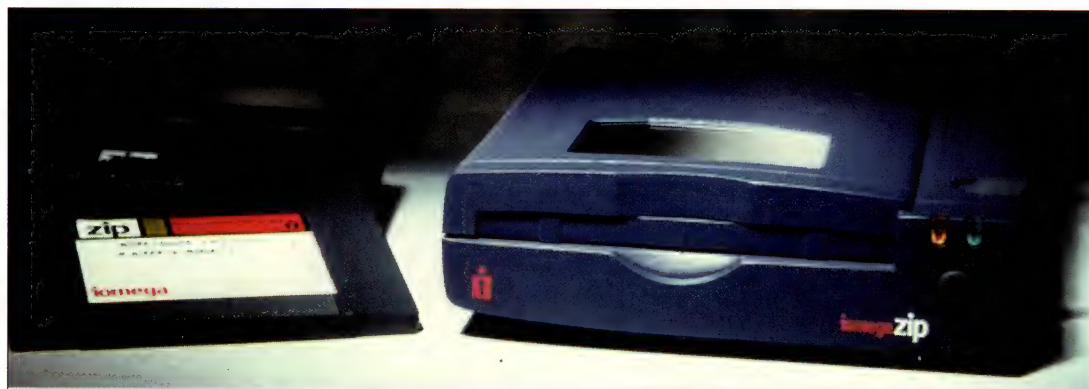
PANASONIC (0500 404041) were showing a new multimedia monitor at the Windows show. The new model, which only just made it across from Japan to the event incorporates Panasonic's Top Dome stereo sound system, originally used to improve sound systems on small, domestic TVs. Available in 15 and 17in versions, the multimedia screen also has built-in microphone and audio output socket.

FAXLINK enables users short of phone sockets – and who isn't? – to connect both fax and phone to a single line. For £49.95 this handy little device will save the £400 that installation and quarterly rental would set you back for another dedicated fax line. Electronic Frontier are the people you need to speak to on 01734 810600.

MEDIA Design Interactive (MDI) are to launch *Disasters*, a CD-based product chronicling events that shook the world. Drawing on the resources of the Reuters film and still libraries, the title examines general phenomena such as volcanoes and industrial accidents. Gore-hounds can get a copy from MDI on 01252 737630.

UP to 250 homes in the Cambridge area will be taking part in the second phase of video-on-demand and home banking trials, using the existing cable TV network. A consortium agreement involving Cambridge Cable, Online Media – who are providing the intelligent, set-top box – and ICL now includes NatWest, who are working on the first home banking service for UK customers.

DISCOVERY Channel Multimedia, the interactive arm of the Discovery and Learning channels, have signed up UK company Maris Multimedia. The first product under this partnership will be an interactive CD-Rom, entitled *How Animals Move*. For details on pricing and availability contact Maris on 0171-488 1566.



## Zip it

**Iomega's Zip drive offers high-capacity, removable storage at a budget price. £149 for the drive and £15 per disk**

WE reported on this budget, high-capacity storage device in our 'Vegas CES report two issues ago and as we predicted Iomega, the designers and manufacturers of the Zip Drive have this month announced its arrival.

It's no bigger than a floppy drive, and each 3.5in disk can pack an amazing 100Mb of data. The drive will cost £149 and blank disks are expected to retail at around £15 each.

Srini Nageshwar, senior vice president and general manager of Iomega Europe, told *PC Home*: "We are aiming this product directly at the home and SoHo user who

needs portable, high-capacity storage but at the right price. The Zip drive is especially useful for Mac and PC users working with data-intensive image software, and who have previously had to use other, far more expensive tape drives to back-up work".

The Zip drive is sold with Zip Tools, a collection of utilities to store and retrieve backed-up files. This software is being demonstrated for the first time to the public next month in Hanover at CeBit '95. Distributors for the device will be appointed any minute now. Contact Iomega on 0171-436 1553 for details on future availability.



# TRANSPORT TYCOON

## World EDITOR

**"Bloody brilliant!"**

PC GAMES 93%

**"More compelling  
than Sim City 2000"**

PC HOME 93%

**"In short,  
Transport Tycoon  
is brilliant."**

PC GAMER 91%



DESIGNED AND WRITTEN BY

*Chris Sawyer*

**"Massive and  
brilliant!"**

PC FORMAT 90%

**"It's fabulous!"**

PC REVIEW 9/10

**"One of the  
best MicroProse  
games"**

PC POWER 90%

INCLUDES  
MODEM  
LINK  
REQUIRES THE  
ORIGINAL  
TRANSPORT  
TYCOON

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Now, build your own Transport Tycoon world from scratch.  
Nothing is left to chance. YOU create the towns, rivers, mountains and industries.  
The tools are all there, can you finish the job?

PLUS, a new fun feature: the Mars Graphics. The gameplay remains the same, but  
the game is played on a 'steam-punk' style Martian landscape.

PLUS, an all-new challenge: play a friend or rival via the fully featured Modem Link.

**Transport Tycoon World Editor. The freedom to make it big, YOUR WAY!**

FOR IBM PC COMPATIBLES

**MICROPROSE**



# newsLINE

## ZYE-SCAN

HARDWARE distributors Zye Technology are forging into '95 with six product releases under their new Addup label. Three budget-priced hand-scanners, offering 32 greyscale, 256 greyscale and a 24-bit colour, should answer the needs of any home-DTP or multimedia hobbyist. Prices run at £81, £116 and £198 respectively. The latter two possess built-in OCR (Optical Character Recognition) and all three come shipped with control software to save scans to a number of graphic file-formats.

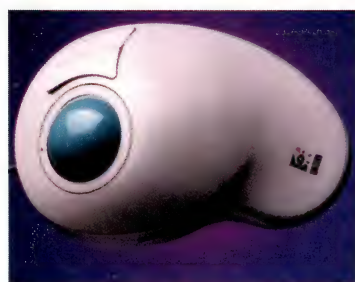


The True Fire joystick is one of six new peripheral launches from Zye Technology. It's their best of three new sticks and costs £29.99

A trio of joysticks have also been announced. Designed for use with games which require a lot of buttons, like the StreetFighter and Mortal Kombat beat-'em-ups, the Turbo Power game pad costs £19.99. The second stick – Quick Action – secures itself with four suction-cups, is designed for single-handed operation and costs £19.99.

Top of the range, the True Fire, is still a snip at £29.99 when you consider the workmanship behind it – the trigger uses technology from professional sports guns.

Walk into your local Game, Byte, Dixons, PC World, Staples or Tandy and you should see these six products available for sale. If not, 01293 538666 will get you through to Zye.



The Vista track ball from Logitech can have functions assigned to its two buttons through Logitech's own Mouseware utility

## Logitech on track

APPARENTLY 50 per cent of the overall market demand for Trackball devices is for a product which can be controlled with the palm or a finger. TrackMan Vista from Logitech (01344 894300) has been designed to accommodate this preference, ergonomically moulded so that you can lay your hand on the main unit and casually spin the ball at the front to control on-screen movement.

The device is shipped with Logitech's Mouseware – intelligent driver software which allows customisation of commands attached to the two front buttons – and costs around £46.

## Europress in Wonderland

ALICE in Wonderland is the first commercially available product written with the game creator Klik & Play. It comes from the publishers of Klik & Play, Europress Software (01625 859444) and includes 50 screens of digitised artwork from the 1865 originals.

Kids can click on the characters, who speak back, and play games as they travel through Lewis Carol's classic fantasy tale.



Lewis Carol's classic children's tale comes alive courtesy of Europress Software

## Sensible move

WARNER Interactive Entertainment continue their assault on the game-software industry, this month with shock news of a 3-year multi-million pound contract with Sensible Software.

This means that following the launch of spring hopeful Sensible Golf, Virgin will no longer be acting as publishers.

Warner Music's new game division bought Renegade last September and a third of Accolade in January and will now have first option on all of Sensible's products. This includes three projects currently under development, of which Sex, Drugs and Rock 'n' Roll marks an interesting shift for Sensi away from their speciality area of sports sim.

## SNIPPETS

AS WordPerfect, Lotus and Microsoft battle it out for the biggest share of the office-suite market, budget options seem to be popping up left, right and centre. The latest is Ability for Windows which links a wordprocessor, database, forms, spreadsheet, drawing, charts and communications programs. Costing below £100, the package comes with a 60-day, no quibble money-back guarantee and it's available from APS (UK) (0171-231 1004).

ACCORDING to market analysts GFK Marketing (01932 354911), at least one in seven households in the UK owns a PC. The survey, Computers In The Home, estimates that 3.3 million households are now running Dos and Windows, and that of the 1,191,000 bought over the last 12 months, an increasing proportion are being sold as multimedia-ready.

SERIF (01602 421502) unveiled DrawPlus 2.0 at the Windows 95 show. Marketed as a tool to create either original artwork or to modify clip-art, the £99.95 package will colour, stretch, slant, rotate, mask or envelope any object including text. OLE support means that it will run with any Windows application.

MIDI-folk know that the Cakewalk brand offers the business when it comes to affordable, entry-level Midi software. Cakewalk Home Studio has received a spring clean and has been re-launched as version 3.0. This includes a virtual piano, support for MCI commands for triggering multimedia hardware and software from the program, staff notation with lyrics, improved faders view and SoundBlaster AWE 32 support in the shape of EMU Sound Font Banks. It costs £99 and is available from Etcetera on 01706 228 039.

CHARLTON Athletic have received the all-clear from Viglen, who have extended their sponsorship of the club until 1996. Viglen has now sponsored CAFC for three successive years, which brings the total value of the PC manufacturer's involvement to over £200,000.



# MULTIMEDIA

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The following leading applications are pre-loaded and are ready for use complete with on-line documentation and on-line help\*.

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- Lotus Approach v3 for Windows award winning database information management system
- Lotus Organizer v1.1, the UK's best selling information manager and Scheduler
- Lotus Smartpics for Windows, the highest quality Graphics for business and other uses
- Individual Training for Lotus 1-2-3
- Individual Training for Lotus Ami Pro
- Individual Training for Lotus Approach
- Autoroute Express for Windows, the best selling route planner and electronic road atlas.
- GST PressWorks for Windows, the powerful yet easy to use, full-featured desktop publishing package.
- GST Designworks v2 for Windows, the best selling Art, Graphics and Drawings Package
- Paciolli 2000, Accounts

### Multimedia Bundle

#### The Multi-media Power Station A

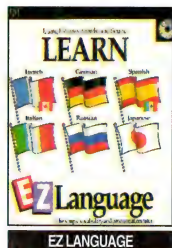
Models come ready installed with this full-feature Multi-media bundle.

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- Shareware CD with hundreds of megabytes of the best programs

#### The Multi-media Power Station C

These models are £39 extra to A models and include

- All the features of multimedia powerstation A models above
- Zool 2 Multi-Media CD Platform game
- IMSI EZ Language CD Tutor. Using pictures, words and sound you can learn French, German, Spanish, Italian, Russian and Japanese.
- Play and Learn Educational CD ROM for the home. Learn Maths, English, Spelling whilst playing!
- World Atlas educational reference package (supplied on disk - not pre-loaded)



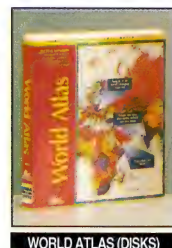
EZ LANGUAGE



PLAY & LEARN



ZOOL 2



WORLD ATLAS (DISKS)



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MMPOW4A



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Incidentally all the pictures shown on this advert were scanned using the New... **ProSCAN 4800**. I think they speak for themselves.

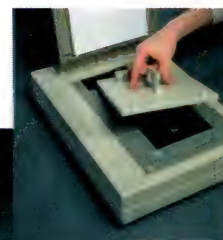
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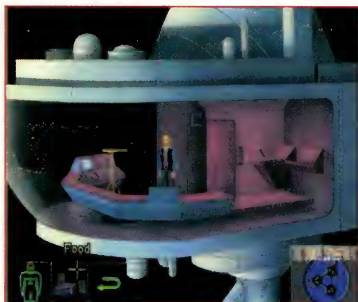
# GAMES news

**Edited by  
Pete Hawley**

## Domark deliver

MORE point and click adventuring anyone? Domark's Orion Conspiracy is looking rather splendid. All the backgrounds, which were hand painted and scanned into the game, are displayed in SVGA.

Designed and programmed by London based team Divide by Zero, Orion will contain full speech for all the characters and the 3-D animated intro is one of the finest we've seen for a while. Look for the CD demo on next month's cover disc.



Lonely places these space stations

## It's hair today and Gametek tomorrow

CONTROLLING the destinies of small people has always been a rather worrying fetish of PC owners. Gametek's Baldies will no doubt have all you wanna be deities foaming at the mouth. The Baldies are a strange race of small fat balding people, or marketing managers, who are at war with other bald tribes in the vicinity of their village.

There are six other tribes close by and the idea is to reach the dizzy heights of tribal domination. Guide the fate of these small fat bald blokes using your scientists, workers and soldiers. Could be another one of those strategic/god games that will have you pulling your hair out!

## Mindscape bulging

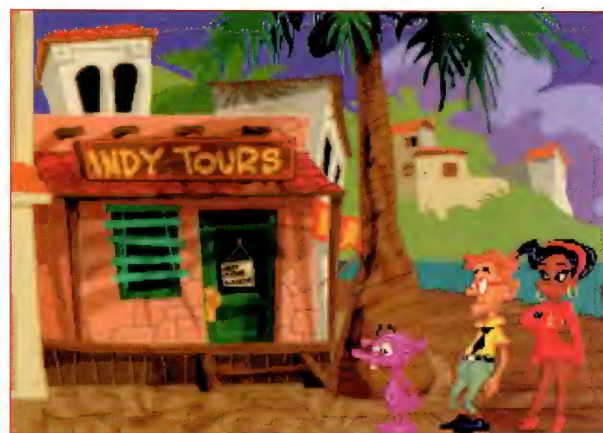
MINDSCAPE are getting busy this year with a plethora of CD titles due for release over the coming months. Among the various titles, which you'll see more of in the Arena pages soon, are Renegade which was included on last month's cover CD, Airpower from flight sim developers Rowan, and a host of new offerings from RPG kings SSI.

Airpower is a strategy/flight sim which puts you at the head of your tribe. The idea is to conquer the surrounding warlords and rule over the lot of them. Sound familiar? Well the plot may sound like an old one but the flight models are something new and bizarre. Many of them resemble the visions of the sci-fi author extraordinaire, Jules Verne.

Good old Jules and ships of Victorian beauty and design – but how well do they fly, and what's their kill potential? You'll have to wait until the summer to find out.



One of the stranger looking flight models from Mindscape's Airpower



Weird goings on in Chewy, Escape from F5

## Love byte

BLUE Byte have been fairly quiet over recent months but they have a few CD-Rom titles safely tucked up their sleeves for release in the summer. The first of these is Albion, an RPG that promises bags of magic and depth. Control up to six characters in your party and guide them through a 2 and 3-D world. First glances suggest something along the lines of Zelda and Arena. Sounds interesting!

Hoping to take bizarre game title of the year is Dr Drago's Mad Cap Chase. Details are sketchy at present but Dr Drago has to be guided across Europe visiting over 100 European cities on the way. Up to eight players can take part at any one time and for all you wimps out there it's guaranteed 100 per cent violence free – shame!

Coming a close second for weirdest game name of the year has to be Chewy, Escape from F5. No, not the over friendly hairy friend of Han Solo but a very odd looking geezer who bears a striking resemblance to Bernard from The Day of the Tentacle. The game promises bags of humour and a similar playing style to the classic LucasArts series.



Bags of magic and depth in Albion

## And she's buying a...

FAIRWAY to heaven. So what's this all about. Led Zeppelin, Golf, aging rockers playing golf? Well actually it's just a golf game but with a few additions and features golf addicts will no doubt polish their balls for.

New courses, multiple frames of animation and rapid screen refreshes will no doubt please Links 386 players who get enough time to make some toast and a cup of tea between shots.

If golf isn't your thing and punching people's lights out is, keep your eyes out for the imminent review of Super Street Fighter II Turbo. Not only is the game a complete mouthful to pronounce but it promises to be one of the better conversions of the classic beat-'em-up console version.



**Pete Hawley enters the World Wide Web. It's a strange place to visit – sometimes helpful and exciting but occasionally, pointless**

**T**HE beauty of the internet and WWW is the vast library of resources and information open to the home user. No matter your tastes and preferences in life you can guarantee there'll be something on there for everyone.

Whether you're undergoing research projects for University or school, looking up people and information associated with your hobby or just browsing for fun the World Wide Web is the perfect environment

# net.stuff

## Useless Pages

for all your wants and needs.

But there is another side to the internet and WWW and it's completely pointless but often hilarious and as the old saying goes, *Only in America*.

### It's pointless

IF you ever suffer from information overload during particularly long surfing sessions take a look at some of these bizarre and sometimes worrying URLs. They're very light-hearted in most cases but discretion is advised on some of them if you are easily offended.

*See if we give a s\*\*t* is probably the

WWW page that caused the biggest uproar in the office this month. Basically it's nothing more than a live link from a camcorder to an internet PoP that continually points at some guys toilet in the States. The picture is updated around once a minute and if you're *lucky* you could catch someone in the loo doing what they gotta do.

<http://wps.com/toilet>



The majority of the web sites mentioned here were accessed via the Useless Pages web site. It's basically a

listing of completely useless web sites and a brief description of what is held therein.

<http://www.primus.com/staff/paulp/useless.html>

Point your browser in the direction of some of the addresses below and try and figure out why someone with the ability to create web pages wastes their time on such nonsense.

Meet blue the counting Dog. This little fella is very talented – simply entering two numbers in the empty boxes and clicking *Go blue go!* will set the talented hound into action. Make sure your browser is linked to a sound file player and listen as the blue dog barks back the answer. And that's it!



<http://hp8.ini.cmu.edu:5550/bdf.html>

## Uniform resource locators

### CD Now, please!

<http://www.cdnw.com>

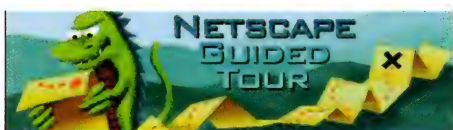
FOLLOWING last month's mention of Netcash and Net shopping is another virtual shop to add to your list. CD Now is proclaimed to be the largest CD shop in the world. From the Web page you can access the shop's extensive catalogue and order any albums you might fancy with your Visa and Mastercard.

CD Now will air mail the goods to you when payment has cleared and should take around six weeks. Due to the cost of CDs in the States it will probably be cheaper to buy your CDs from .com and pay the postal fee. For security safety the store accepts encrypted Visa numbers.

### Juggle your PC

<http://www.hal.com/services/juggle/>

IF you happen to be the kind of person who picks up random objects off people's desks and then proceeds to stand there juggling them for no reason, this site is for you. The juggling information service is full of interesting comment, meanings of juggler lingo and all sorts of bizarre listings that you'll find unmissable. If you're a juggler that is.



### Smeg

[http://www.hal.com/~markg/docs/RedDwarf/rd-home\\_page.html](http://www.hal.com/~markg/docs/RedDwarf/rd-home_page.html)

SMEG heads take heed. When it comes down to the basics of insulting decent folk then there is no one better trained than Mr. Lister, not forgetting Lance Concannon, of course.

If you're about to indulge in a spot of sarcastic ridiculing, look no further than this page for a full list of wave files from the classic comedy sci-fi series.

It's a fan boys dream. Plenty of script info and material to download plus sights, pictures and quotes – check it out!



### No Quarter

CALLING all aging hipsters and rockers. Following on from the success of their last live album, Page and Plant have arrived on the internet. Snappily named after an early Led Zep album, this site contains all the kind of stuff you'd expect and a little more. Interviews with the guys, pictures and sounds.





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28,000 Data + 14,400 Fax  
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● V34 Standard  
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Football £13 Monkey Power Rangers £19 Morpheus Island 1 £14	<b>HUMANS 1 &amp; 2</b> Indiana Jones FOA £22 Inferno £21 Interplay 10 year £27 Interplay Classic Coll. £24 Iron Helix £25 Ishtar 2 £27 Isle of the Dead £14 Journeyman Project £19 Jump Raven £20 Kings Quest 5 £24 Kings Quest 6 £26 Labyrinth of Time £20 Laura Bow 2 £14 Legend of Kyandia 3 £22 Leisure Suit Larry 1-6 £18 Linko - Challenge of Golf £7 Little Big Adventure £18 Loom £13 Lost in Time 1 & 2 £25 Lost Treasures Icomm 2 £27 Lucas Arts Double Pack £28 Lunatics £17 M1 Tank Platoon £17 Mad Dog McCreedy 2 £16 Magic Carpet £19 Magic Death £26 Mantis £22 MegaRace £14 Microcosm £17 Mike Ditka Ult. 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# Don't be a dummy

**The Dummies range of books covers over 30 topics and has over 9 million copies in print. Mark Ballard grabs an armful with the intention of finding out why**

## Dos for Dummies

**T**HIS has to be the most well known of the Dummies series, for obvious reasons: Everyone uses Dos – well almost everyone. It is the guide that should be supplied with all PCs free of charge.

If you are *lucky* your PC will be supplied with Microsoft's own Dos guide, which may be authoritative, but it is far from readable, and is understandable only by a gifted few. Some PC manufacturers have even given up supplying any sort of guide at all.

But, as there are no laws ensuring that suppliers of PC equipment provide guides which allow users to make the most of the technology, we are forced to splash out elsewhere – with authorised Microsoft training companies making a killing.

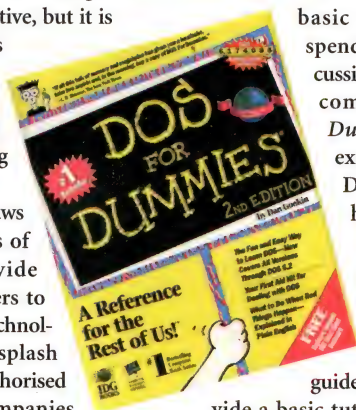
If you begrudge the extra cost you have two choices: Either make do with what you have and learn to accept the fact that the PC on your dining table is an enigma only the nippers can fathom; or invest in a book that explains all – in which case *Dos for Dummies* is as good a starting point as any. Its author points

out that there is no shame in being a Dos dummy; the whole point of computers is that they are tools and it is necessary to know only enough to make them work. If anyone has an aim in life to become a Dos non-dummy, they are placed automatically within the class of *nerd*.

Starting at the most basic of the basic – it spends three pages discussing how to turn on a computer! – *Dos for Dummies* goes on to explain the whole of Dos in friendly, humorous detail.

As Dos is the software which controls everything your computer does, this guide takes time to provide a basic tutorial for the computer components – covering less integral items such as printers and modems, as well as hard and floppy disks.

If you are the kind of person who lives in fear of pressing the wrong key, has a heart failure when the computer beeps, or are simply flummoxed when presented with: C:\>, *Dos for Dummies* is for you.



## Windows 3.1 for Dummies

**T**HANKS to the fact that Windows is a little easier to get to grips with than Dos, buying a guide to help you out is not as much of a necessity. But alas, it is not as easy to use as everyone makes out.

The main problem here is the concept of Windows, what it does and what it is for. For the complete novice, *Windows 3.1 for Dummies* explains from the ground up what it is all about. It also explains a vast array of other things, such as how to use PaintBrush, what a microprocessor is, where program windows go when you minimise them and how to get them back. In fact, there is so much information packed into this book that you have to be careful not to get engrossed; you will soon find yourself becoming confused by the barrage of new concepts and explanations.

The idea is to use it as a reference book, as opposed to a novel. If you encounter a brick wall where there

should be a window, refer to the book to find the answer. As in all the Dummies books, you are discouraged from reading any more than you need to. Any background technical information which is useful, but not necessary to know, is boxed out with a header usually along the lines of: "Don't read this unless you are a nerd."

Where this book excels is in providing real ground level guidance. Essential chapters include Windows Stuff

Everybody Thinks You Already Know, Help on the Windows Help System and Ten Aggravating Things about Windows (and How to Fix Them) – although I was surprised that the last was limited only to 10.

If you are not a complete Windows dummy and simply wish to know a little more about the subject, a less patronising book might suit you better.

However, if you have absolutely no idea about Windows and start out with the Dummies guide, its comprehensive content will ensure that it remains useful beyond your graduation from ignorance.



## Modems for Dummies

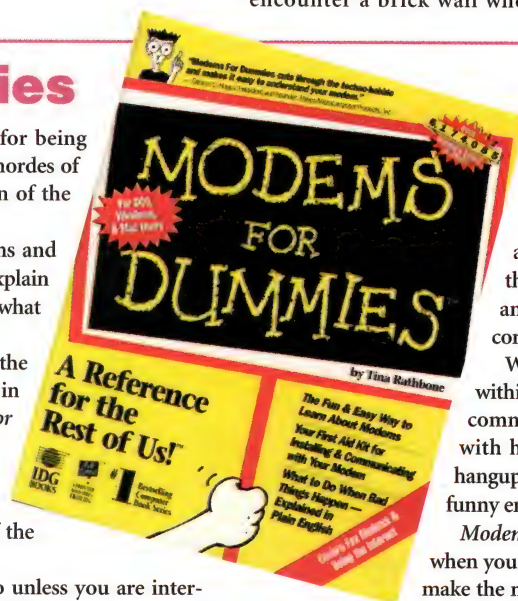
**M**ODEMS have earned themselves a reputation for being uninteresting, difficult to use, and for attracting hordes of nerds. This subject is just right for the attention of the Dummies team.

Step one of this book is to remove any fear of modems and replace it with a vision of their capabilities. Step two is to explain how they can be used. Step three is to explain where and what they can be used for.

On the way, explain away all the jargon and reveal it for the nonsense it is, offer solutions to common problems, throw in more than a few laughs and there you have it: *Modems for Dummies*.

As well as helping you make sense of modems and the associated control software needed to run them, this Dummies guide also spends some time covering a few of the online services that can be contacted.

Unfortunately, American influences dominate here, so unless you are interested in using the four most popular US services, chapters 6 to 9 are not much use



– though, of course, CompuServe is a particularly good international service.

Still, elsewhere *Modems for Dummies* does an admirable job. It touches upon Internet etiquette and the intricacies of social interaction online, gives the hidden meaning behind all those darn acronyms, and even includes a buyer's guide for modems and communications software.

While the important information is not buried deep within an impenetrable shell of technical babble – as is common in computer books – it is plastered liberally with humour. This certainly does a lot to dispel any hangups brought about by techno-phobia and is actually funny enough to make you chuckle audibly on occasions.

*Modems for Dummies* is the guide that should be supplied when you buy a modem. It is one of the best ways to learn to make the most out of your comms equipment in the shortest space of time.



## PCs for Dummies

**W**HILE the other Dummies books usually include some kind of explanation of the components found in and around a PC – particularly the Windows and Dos guides – these machines are so complicated that they warrant their own book in the range.

Many technical hurdles novices encounter when they are making their first steps with a PC are simple things that can be fixed in a jiffy. All you need is know-how.

*PCs for Dummies* provides this – from the nonsensical such as plugging in and switching on – though a common problem – to the useful, like what an operating system is and how you can play Led Zeppelin on a CD-Rom drive.

There is so much involved with computing with a PC that to cover it all – as *PCs for Dummies* does, virtually – takes either an army of specialists and a library of books, or a single book with surface coverage. The Dummies solution is the latter.

It will not tell you how to do your

home accounts with a spreadsheet and it will not explain how to install a second hard drive. What it will do is give you a basic understanding of almost everything.

If you ever come across a term you don't understand, it is likely to have an explanation.

Superb cartoons and frequent hilarity play a big part in these books. The authors have recognised that there is nothing more bland than a computer guide.

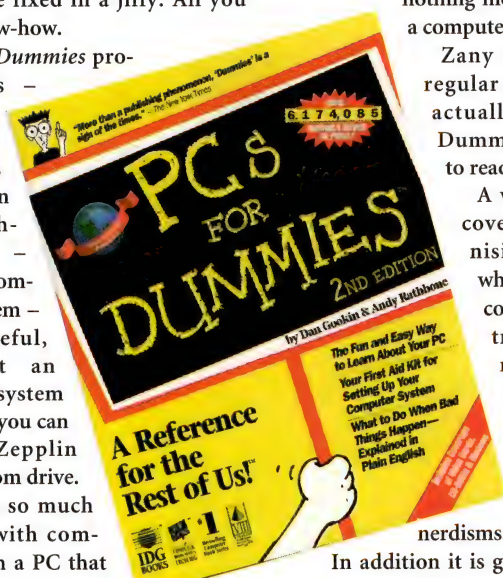
Zany touches and regular comic asides actually make the Dummies range fun to read.

A whole chapter covering the agonising acronyms which plague the computer industry, is complemented throughout with regular explanations of technical terms and

nerdisms.

In addition it is generally informative on such important matters as troubleshooting, upgrading equipment, and day-to-day care and maintenance.

You can safely consider *PCs for Dummies* the bible of novice PC usage.



## Multimedia and CD-Roms for Dummies

**T**HERE are a huge number of guides to the Internet – heaven knows it needs one. *The Internet for Dummies* could be just another, but if you already own one from the range of Dummies books, and are a fan, you will not be disappointed with what you find within the covers of this one.

It opens in the best possible way: A section called Getting onto the Internet. The Internet as an entity and a community is explained, and the uses it has to its members are explained.

There are chapters about E-mail, USENET newsgroups, telnet, ftp, and any other techie term you can dredge from the phone lines.

As with any indispensable Internet guide, useful sites are listed, but it doesn't bother attempting the impossible task of listing all of the available sites and services.

The adventure is left to you. This guide shows you how to get into it, how to do it, and gives hints on the specifics. But you are left to explore the possibilities and learn from experience – the best way.

One thing it does do is look at the different software that can be used to connect, and the

Try this book out free – it's on this month's cover!



ways in which communications can be performed. Also there is a trouble-shooting guide, which for the Internet includes lessons in online etiquette.

*The Internet for Dummies* is a book that will nurse you into online life. Like a little black book that explains how to communicate verbally in social circles, keep it under your seat and no-one will know that you are not the guru you appear to be.

It turns comms from a taboo dinner party subject into an interesting anecdote – a great way for you to introduce to your friends the fact that you use computers in your spare time, without being condemned to nerdsville.

## The Internet for Dummies

**M**ULTIMEDIA is a highly confused and over-hyped term that has had been very successful in lining the pockets of companies who market it. Thankfully, this Dummies book dispels the multimedia myth at the outset and remains on the path of truth with its feet on the ground throughout.

As you read it, you will follow suit. It will tell you exactly what you can expect your computer to do – no it can't actually dance and sing – and how to get it to do it.

Moreover, it gives an indication of how much all the fancy add-ons and flashy bits will furrow the brow of the money earner in your family – although, this is given in dollars, rather than pounds, but you can still make a *guessimate*.

As multimedia is as yet an add-on

to the traditional PC setup, to learn all about it, you will have trouble avoiding all of the nasty technical things that go on inside your computer's cover.

This Dummies guide tackles them boldly, with the expected humour and panache that makes the jargon easy to swallow in a similar way that milkshake does for headache pills.

It includes guides for making all the most common connections and installations – such as hooking up to a camcorder or installing a CD-Rom drive

If, having performed an operation, the resulting monster of Frankenstein doesn't work, there are chapters to help you through the stressful troubleshooting.

Buzzwords are rife in the world of

computing, but when it comes to multimedia and CD-Rom technology there is no parallel. These are explained by the Dummies guide, making your buying decisions more certain and your expectations more real.

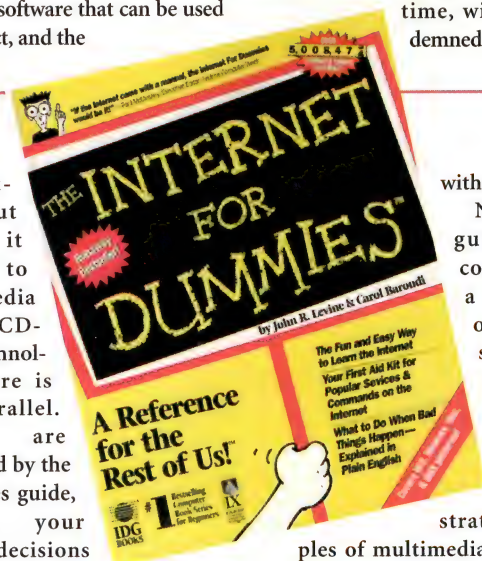
It goes on to explain just how you can do what the buzzwords claim you can do. Whether you want to record some noises from a musical instrument or store and display holiday snaps, the solution can be

within these pages.

No multimedia guide would be complete without a CD-Rom of its own for you to spin. The one included with this Dummies guide does a very good job of demon-

strating the principles of multimedia by providing a computer-based equivalent of the book itself.

All Dummies books are available from High Street stores or from Transworld Publishers, 61-63 Uxbridge Road, London W5 5SA. Tel: 0181-579 2652





**Credit Card/Sales: 01582 74 55 55    Technical Support: 01582 74 55 00    Watford Shop: 01923 23 77 74**



# Printers & Accessories

## Laser Printers

All Laser printers (excluding Hewlett Packard Oki & Panasonic 4400/4401/5400) include 12 Months On-Site maintenance

• Brother HL630	6ppm	£326
• Brother HL660		£473
• Brother HL1260		£910
• Canon LBP 4i	4ppm	£395
• Canon LBP-8 IV	8ppm	£905
• Canon LBP-8 IIIR	8ppm	£1559
• Epson EPL-3000	4ppm	£389
• Epson EPL-5200	6ppm	£462
• Epson EPL-5600	6ppm	£594
• Fujitsu VM600	6ppm	£499
• HP Laserjet 4L	4ppm	£386
• HP Laserjet 4 ML	4ppm	£734
• HP Laserjet 4MV	16ppm	£1989
• HP Laserjet 4V	16ppm	£1372
• HP Laserjet 4+	12ppm	£938
• HP Laserjet 4M+	12ppm	£1258
• HP Laserjet 4Si	16ppm	£2085
• HP Laserjet 4Si MX	16ppm	£2967
• NEC SuperScript 610+	6ppm	£289
• NEC SuperScript 660	6ppm	£416
• NEC SuperScript 660i	6ppm	£569
• NEC SuperScript Colour 3000	6ppm	£677
• OKI OL-400ex	4ppm	£289
• OKI OL-410ex	4ppm	£399
• OKI OL-850 PS	8ppm	£1199
• Panasonic KX-P4400	4ppm	£270
• Panasonic KX-P4401	4ppm	£330
• Panasonic KX-P4410*	5ppm	£318
• Panasonic KX-P4430*	5ppm	£479
• Panasonic KX-P4440*	10ppm	£679
• Panasonic KX-P5400	4ppm	£540
• Star WinType 4000	4ppm	£288

\*2 years on-site warranty

## Laser RAM Upgrades

Type	1M	2M	4M	8M
• Canon LBP-4+	£139	-	-	-
• Canon LBP-4i	£109	-	£279	-
• Canon LBP-8 IV	£119	-	£299	-
• EPL-4100/4300	£70	£110	£205	-
• EPL-5200/5800	£58	£115	£215	-
• Fujitsu VM600/VM4	£57	£85	£149	£299
• Fujitsu VM800	£115	-	-	-
• HP II/III/IIID	£75	£115	£135	-
• HP II/IIID	£75	£115	£135	-
• HP II/ISI	£57	£85	£158	£299
• HP 4/4M/4P/4MP	£85	£85	£149	£299
• HP 4L/4ML	£75	-	-	-
• KX-P4410/4430	£129	£199	-	-
• KX-P4420/4450i	£75	£115	£135	-
• KX-P4400/5400	£89	£139	£229	-
• OKI OL400ex	£99	£118	-	-
• Star LP-8	£138	£225	-	-
• Star LS-5	£75	-	-	-

## Laser Consumables

Type	Toner	Drum	Dev
• Brother HL630	£20	£99	-
• Canon/Star 4s	£46	-	-
• Canon LBP-8 IV	£70	-	-
• Canon LBP-8 III	£52	-	-
• EPL-4100/4300	£64	£89	-
• EPL-5200	£85	-	-
• EPL-7100/7500/8100	£117	-	-
• Fujitsu VM600	£85	-	-
• Fujitsu VM800	£115	-	-
• Fujitsu VM4	£29	£149	£89
• HP II/III/IIID	£47	-	-
• HP II/IIID	£46	-	-
• HP III/ISI/4Si/MX	£77	-	-
• HP 4/4M	£67	-	-
• HP 4L/4ML/4P/4MP	£44	-	-
• HP 4V/MV	£115	-	-
• NEC 610	£79	-	-
• NEC S60/60P/62P/90/95	£105	-	-
• OKI OL-400/800	£19	£189	-
• OKI OL-400ex	£17	£129	-
• KX-P4410/30	£28	£80	£90
• KX-P4440	£32	£108	£115
• KX-P4420	£24	£57	£55
• KX-P4450/50i/51/55	£18	£75	£60
• KX-P4400/5400	£11.50	£69	-
• Qume Crystalprint	£99	£189	-
• Star LS-5	£83	-	-

## Laser Accessories

• JetPage Postscript Cartridge - IIP/IIIP	£169
• Postscript Upgrade for LaserJet 4	£270
• LaserJet 4 Lower Paper Cassette	£205
• LaserJet 4 JetDirect Ethernet Card	£339
• LaserJet IIIP Lower Paper Cassette	£115
• Ozone filter for KX-P4420	£9
• Ozone filter for KX-P4450/4455	£20
• LaserJet 4Si Duplex Unit	£475
• Envelope Feeder for LaserJet 4	£199
• LaserJet Font Cartridges	from £45
• LaserJet III FX/IBM Emulation Cart.	£79
• Lower Paper Tray for Canon LBP-4	£98
• A5 Paper Feeder for LaserJet 4P	£85
• Postscript Upgrade for LaserJet 4P	£225

## 9pin Matrix Printers

• Citizen Swift 90	80col	£114
• Citizen Swift 90C	80col	£121
• Citizen 1200+ Parallel	80col	£90
• Citizen 120D+ Serial	80col	£105
• Epson LX100	80col	£108
• Epson LX300	80col	£88
• Epson LX400	80col	£89
• Epson LX1050	132col	£172
• Epson FX870	80col	£221
• Epson FX1170	132col	£280
• Epson DFX5000+	132col	£1099
• Panasonic KX-P1150	80col	£89
• Panasonic KX-P3696	80col	£259
• Star LC15	132col	£177
• Star LC100C	80col	£89
• Star LC90	80col	£89
• Star ZA200	80col	£255
• Star ZA250	132col	£315

## 24pin Matrix Printers

• Citizen ABC Mono	80col	£103
• Citizen ABC Colour	80col	£125
• Citizen Swift 200 Mono	80col	£138
• Citizen Swift 200 Colour	80col	£146
• Citizen Swift 240 Mono	80col	£160
• Citizen Swift 240 Colour	80col	£178
• Citizen Swift 24X	132col	£187
• Epson LQ100	80col	£97
• Epson LQ150 Mono	80col	£112
• Epson LQ150 Colour	80col	£158
• Epson LQ300	80col	£140
• Epson LQ570+	80col	£185
• Epson LQ870	80col	£350
• Epson LQ1070+	132col	£282
• Epson LQ1170	132col	£400
• Epson DLQ3000		£672
• Epson LQ3000	132col	£680
• NEC P2Q	80col	£98
• NEC P3Q	132col	£236
• NEC P62	80col	£315
• NEC P72	132col	£375
• NEC P90	132col	£549
• Panasonic KX-P2023	80col	£108
• Panasonic KX-P2124	80col	£198
• Panasonic KX-P1624	132col	£210
• Panasonic KX-P2135	80col	£124
• Panasonic KX-P3626	132col	£259
• Star LC24-20 II	80col	£113
• Star LC24-15 II	132col	£232
• Star LC24-300C	80col	£188
• Star LC240 Mono	80col	£92
• Star LC240 Colour	80col	£103
• Star XB24-200C	80col	£315
• Star XB24-250C	132col	£385

## Ribbons/Ink Cartridges

(Manufacturers Original Ribbons Only)

Type	Black	Colour
• Canon BJ10ex/BJ10sx	£14	-
• Canon BJ200/BJ230	£16	-
• Canon BJ300/BJ330	£11	-
• Canon BJC600	£6	£7
• Canon BJC800	£16	£22
• Canon BJC4000	£7	£13
• Citizen 120D+	£4	-
• Citizen Swift 200/240	£4	£13
• Citizen Swift 24X	£8	£18
• Epson LX400/LX850/FX870	£4	-
• Epson LX100	£4	-
• Epson LX1050/FX1170	£5	-
• Epson LQ100	£4	-
• Epson LQ150	£4	£12
• Epson LQ570/870	£5	-
• Epson LQ1070/1170	£8	-
• Epson LQ2550	£8	£16
• Epson SQ870/SQ1170	£21	-
• Epson Stylus Colour	£-	£29
• Epson Stylus 300	£12	-
• Epson Stylus 800/1000	£10	-
• Fujitsu DL1150/DL1250	£5	£7
• Fujitsu DL3600	£6	£12
• Fujitsu B100/B200	£18	-
• HP DeskJet Std Capacity	£-	£21
• HP DeskJet High Capacity	£20	-
• HP DeskJet 310	£15	£21
• HP DeskJet 1200	£20	£21
• HP PaintJet	£16	£18
• HP PaintJet XL300	£16	£18
• Kaga/Taxan KP810/815	£5	-
• NEC P88Q/P32Q	£8	-
• NEC P82/72/90	£8	£14
• Panasonic 1150/1170/1180	£7	-
• Panasonic 2180/23/24/35	£7	£14
• Panasonic 1824/2824	£8	-
• Panasonic KXP3626	£11	-
• Star LC10/LC20/LC100	£5	£9
• Star LC100/200	£5	£11
• Star LC24-20/24-100/24-200	£5	£12
• Star LC24-30	£8	£12
• Star XB24/ZA200/ZA250	£5	£12
• Star SJ48	£15	-
• Star SJ144 Thermal	£18	£18

## Inkjet Printers

• Canon BJ10sx	80col	£145
• Canon BJ200	80col	£186
• Canon BJ230	132col	£247
• Canon BJ300	80col	£361
• Canon BJ330	132col	£404
• Canon BJC600	80col	£344
• Canon BJC800	132col	£1065
• Canon BJC820 (Mac)	132col	£1228
• Canon BJC4000 Colour		£270
• Citizen Project IIC		£219
• Epson Stylus 300	80col	£138
• Epson Stylus 400	80col	£130
• Epson Stylus 800+	80col	£168
• Epson Stylus 1000	132col	£311
• Epson Stylus Colour	80col	£327
• Epson SQ870	80col	£415
• Epson SQ1170	132col	£580
• Fujitsu B100	80col	£145
• HP DeskJet 320		£165
• HP DeskJet 320 & CSF		£180
• HP DeskJet 540	80col	£20A
• HP DeskJet 560C	80col	£326
• HP DeskJet 1200C	80col	£630
• HP DeskJet 1200C PS	80col	£992
• HP PaintJet XL300+ A4	132col	£1599
• HP PaintJet XL300+ A3		£1769
• HP PaintJet XL300 PS A4	132col	£2568
• HP PaintJet XL300 PS A3		£2719
• HP DeskWriter 520 (Mac)	80col	£199
• HP DeskWriter 500C (Mac)	80col	£260
• HP DeskWriter 560C (Mac)	80col	£387
• Star SJ48	80col	£182
• Star SJ144	80col	£285
• Star WinType 800C Thermal Colour		£592

## Sheet Feeders

• Canon BJ10ex/BJ10sx	£40
• Canon BJ300	£88
• Canon BJ330	£92
• Citizen Swift 24/200/240	£75
• Epson LX400	£69
• Epson LQ570/LQ870	£47
• Epson LQ1070/LQ1170	£89
• HP DeskJet 310	£48
• NEC P20/P220	£59
• NEC P30/P32Q	£85
• Panasonic 1170/1180/1123	£59
• Panasonic 1124/1124i/2124	£79
• Panasonic 1824/2824	£128
• Panasonic KX-P2135	£30
• Star LC100	£69
• Star LC24-20	£69
• Star LC220/LC24-200	£69

## INKJET REFILL PACKS FOR:

• Canon BJ10ex/BJ10sx - 2 pack	£12
• Canon BJ10ex/BJ10sx - 5 pack	£24
• Canon BJ10ex Cart & 3 Refills	£29
• Canon BJ200 Cart & 3 Refills	£34
• HP DeskJet Std Capacity - 2 pack	£8
• HP DeskJet Hi-Capacity - 2 pack	£24
• HP DeskJet Std Capacity - 5 pack	£14
• HP DeskJet Hi-Capacity - 5 pack	£35
• HP DeskJet Colour - Cart & 4 Refills	£49

## Accessories

• Citizen Swift 200/240/ABC Colour Kit	£32
• Citizen Project II Cartridge	£3
• Canon BJ10sx Battery Pack	£32
• Epson OK Serial Interface	£29
• Epson 8K Serial Interface	£75
• Epson 32K Serial Interface	£95
• Epson LQ100 Tractor Unit	£29
• HP DeskJet FX Emulation Cartridge	£49
• HP DeskJet IBM Emulation Cartridge	£57
• HP DeskJet 256K RAM Cartridge	£45
• HP DeskJet 310 Black Cartridge	£14
• HP DeskJet 310 Battery Pack	£33
• HP DeskJet Carry Case	£49
• HP DeskJet 310 Colour Kit	£28
• HP DeskJet 1200 Postscript Upgrade	£499
• HP DeskJet Prestige Elite Fonts	£55
• HP DeskJet Letter Gothic Fonts	£56
• HP DeskJet 310 Parallel Cable	£12
• Panasonic Serial Interface	£49
• Panasonic 32K Buffer	£16
• Panasonic 2180/2123 Colour Kit	£30
• Star 8K Serial Interface - LC range	£52
• Star 8K Serial Interface - XB range	£39
• Star 32K Buffer - LC24/XB24	£52
• Dustcovers for 80col printers	£6
• Dustcovers for 132col printers	£9
• 51636G - 50 x DJ500 Transparencies	£35
• 51838J - 50 x DJ500 Glossy A4 Paper	£35
• 51630Z - 50 x DJ500 A4 Paper	£15
• Appletalk Printer Cable - 2m	£12
• Appletalk Interface for DeskJet 1200	£129
• Appletalk Interface for LaserJet III	£189

## HP On-site Warranty 3yrs

• Mono DeskJets & Deskwriters	£40
• Colour DeskJets & Deskwriters	£85
• 4ppm LaserJets & DeskJet 1200C	£100
• 8ppm LaserJets	£185

**LUTON SHOWROOM**  
Finway, Dallow Road, Luton, Beds.  
Tel: 01582 74 55 55

**WATFORD SHOWROOM**  
250 Lower High Street, Watford, Herts.  
Tel: 01923 23 77 74

## Manual Printer Sharers

Standard Low Cost Sharers		
Connects	Serial	Parallel
• 2 to 1	£8	£9
• 3 to 1	£11	£12
• 4 to 1	£15	£16
• 5 to 1	£27	£28
Professional Sharers		
Connects	Serial	Parallel
• 2 to 1	£12	£13
• 3 to 1	£15	£17
• 4 to 1	£24	£26
• 5 to 1	-	£38

## Crossover Sharers

Connects	Serial	Parallel
• 2 in/2 out	£28	£29
• 4 in/2 out	-	£49

## Auto Printer Sharers

Uni-Directional		
Connects	Serial	Parallel
• 2 to 1	£27	£29
• 4 to 1	£44	£45
• 8 to 1	£62	£75
Bi-Directional		
Connects	Serial	Parallel
• 2 to 1	£29	£29
• 4 to 1	-	£35

256K RAM module for above £



## Aries 14" VGA Monitors

- Mono:** 14" Flat Screen Paper White Monitor. Supplied complete with Swivel Base. £85
- Colour Super VGA LR:** State of Art Colour Monitor, Swedish Low Radiation MPRII, supporting resolution of upto 1024 x 768 with an 0.28mm dot pitch tube. (EPA: EnergyStar Compliant)
- EnergyPro 14" SVGA Colour MPRII £165
  - Above with 512K SVGA Card £185

## Aries Multiscan Monitors



The NEW Aries Multiscan monitors, with Horizontal Frequency ranging from 29KHz to 75KHz providing rock solid images at resolutions of upto 1280 x 1024 Non-Interlaced, coupled with the 0.28mm dot pitch Picture Tube provides the Ultra High Image that is expected from the Aries range of Low Radiation Swedish MPRII Standard Monitors. Supplied complete with tilt and swivel base.

- **Aries Alphascan Pro LR**  
1024 x 768/72Hz (NI) H-Sync 70KHz, Front Mounted user controls £199
- **Aries EnergyPro 6000i LR**  
15" Colour Display, 0.28mm dot pitch, 1280 x 1024/60Hz NI, Microprocessor Control with digital display, Incis Pincushion, Trapezoid, Rotation settings. EPA EnergyStar Compliant £259
- **Aries EnergyPro 7560i LR**  
17" Flat Screen 0.26mm, 1280 x 1024/70Hz (NI) H-Sync 80KHz, Microprocessor Controls incl. Pincushion, Trapezoid, Rotation & Individual RGB Colours. EPA EnergyStar Compliant £479

## Multiscan Monitors

Hitachi 17MVX	£579	Taxan EV410LR	£199
NEC 2V	£225	Taxan EV420LR	£240
NEC XV15	£281	Taxan Ergo 580LR	£285
NEC XE15	£390	Taxan Ergo 885LR	£624
NEC XV17	£563	Taxan Ergo 880LR	£520
NEC XE17	£696	Taxan Ergo 895LR	£835
NEC XP17	£914	Taxan Ergo1080LR	£909
NEC XE21	£1337	Taxan Ergo 2100LR	£1530
NEC XP21	£1759	Taxan Ultra 1095LR	£1458
Panasync TX-D1731		Phi 14C 14"	£168
Pro 5	£499	Phi 15B 15"	£254
Panasync TX-T1537	£319	Phi 17C 17"	£427
Panasync TX-D1751	£599	Phi 20C 20"	£840
Panasync TX-D1732	£535	Phi 20T 20"	£1315
Panasync TX-D2032	£1125	Sony CPD-15SF1	£287
Panasync Pro 7		Sony GDM-17SE1 17"	£819
TX-D2131	£1359	Sony GDM-20SE1VT	£1315
Taxan EV400LR	£190	Sony GDM-20SE1 20"	£1409

Panasonic monitors carry 2 years on-site maintenance warranty

## Controller Cards

<b>ISA</b>			
W-2FH	IDE 2FD/HD		£9
W-MI/O	IDE FD/HD, 2S, 1P, 1G		£11
W-MI/O+	IDE+ 4HD/2FD, 2S, 1P, 1G		£28
W-SIO	Enhanced Dual Serial (16550 & 14550), 1P, 1G		£32
W-FSS	Serial Card with 16550 Fast UART		£29
W-I/O	Multi I/O with 2S, 1P, 1G		£9
XT/AT	Joystick/Games Card		£11
Dual Serial (RS232) Card			£8
Parallel Printer Port Card			£8
<b>ISA Caching Controllers</b>			
Promise DC-100	OK		£69
Promise DC-100	1Mb		£95
Promise DC-200	OK		£75
<b>VL-Bus/Cache</b>			
IDE 2FD/HD, 2S, 1P, 1G			£16
Promise DC-4030VL Cache	OK		£89
<b>SCSI Controllers</b>			
Adaptec 1542 Controller Kit	ISA		£174
Adaptec 1542 Controller Bare	ISA		£132
Adaptec 2842 Controller Kit	VLB		£198
Adaptec 2940 Controller Kit	PCI		£239
Adaptec 2742 Controller Kit	EISA		£289
Promise DC2040	ISA		£149

## MS Input Devices

- MS Mouse v2 (Serial) £35
- MS Mouse v2 (PS/2) £35
- MS Bus Mouse £48
- MS HomeMouse £27
- MS Natural Keyboard £69

## Graphics Card

- 256K VGA Card ISA £21
- 512K SVGA Card ISA £27
- 1Mb Super VGA ISA £44
- 1Mb S3 805 Graphics Card VLB £69
- 1Mb VI-711A CirrusLogic 5428 VLB £62
- 1Mb VI-720 CirrusLogic 5434 PCI £72
- 2Mb VI-720 CirrusLogic 5434 PCI £109

## DIAMOND

- 1Mb SpeedStar Pro ISA £89
- 1Mb SpeedStar 64 ISA £94
- 2Mb SpeedStar 64 ISA £139
- 1Mb SpeedStar Pro VLB £88
- 1Mb Stealth 64 DRAM VLB £96
- 2Mb Stealth 64 DRAM VLB £136
- 2Mb Stealth 64 VRAM VLB £231
- 4Mb Stealth 64 VRAM VLB £339
- 2Mb Viper SE VRAM VLB £245
- 4Mb Viper SE VRAM VLB £348
- 1Mb Stealth 64 DRAM PCI £97
- 2Mb Stealth 64 DRAM PCI £135
- 2Mb Stealth 64 VRAM PCI £232
- 4Mb Stealth 64 VRAM PCI £340
- 2Mb Viper SE VRAM PCI £248
- 4Mb Viper SE VRAM PCI £355

## MATROX

- 2Mb Matrox MGA Ultima VLB £305
- 2Mb Matrox MGA Ultima+ VLB £328

## ORCHID

- 1Mb Kelvin EZ VLB £87
- 1Mb Kelvin EZ PCI £88
- 1Mb Kelvin 64 ISA £98
- 2Mb Kelvin 64 ISA £129
- 1Mb Kelvin 64 PCI £98
- 2Mb Kelvin 64 PCI £135
- 1Mb Kelvin 64 VLB £97
- 2Mb Kelvin 64 VLB £128
- 1Mb Fahrenheit 64 PCI £119
- 2Mb Fahrenheit 64 PCI £155
- 1Mb Fahrenheit 64 VLB £118
- 2Mb Fahrenheit 64 VLB £154
- 2Mb Fahrenheit Pro 64 PCI £244
- 4Mb Fahrenheit Pro 64 PCI £345
- 2Mb Fahrenheit Pro 64 VLB £242
- 4Mb Fahrenheit Pro 64 VLB £346

## SPEA

- 1Mb V7 Mirage ISA £86
- 1Mb V7 Mirage P64 VLB £122
- 2Mb V7 Mercury P64 VLB £246
- 2Mb V7 Mirage P64 PCI £179
- 2Mb V7 Mercury P64 PCI £247

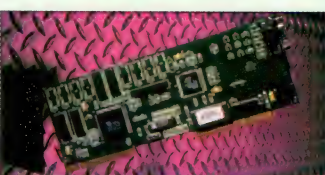


## TAXAN

- 1Mb GTS 795 ISA £88
- 1Mb GTS 795 VLB £89
- 1Mb GTS 795 PCI £90
- WinBoost ISA £114
- WinBoost VLB £115
- WinBoost PCI £116
- 2Mb GTS WinTurbo ISA £248
- 2Mb GTS WinTurbo VLB £249
- 2Mb GTS WinTurbo PCI £250
- 4Mb WinTurbo Plus ISA £398
- 4Mb WinTurbo Plus VLB £399
- 4Mb WinTurbo Plus PCI £400



- 1Mb ThunderBolt ISA £59
- 1Mb ThunderBolt ET4000 VLB £96
- 2Mb ThunderBolt ET4000 VLB £135
- 1Mb ThunderBolt-T 9420DGI PCI £75
- 2Mb ThunderBolt-T 9420DGI PCI £116



## AT IDE Hard Drives

- |                |       |      |  |      |  |
|----------------|-------|------|--|------|--|
| <b>HITACHI</b> |       |      |  |      |  |
| DK221A-34      | 340Mb | 2.5" |  | £259 |  |
| DK211A-51      | 510Mb | 2.5" |  | £325 |  |
|                | 1Gb   | 2.5" |  | £POA |  |

## MAXTOR

- |        |       |      |      |      |
|--------|-------|------|------|------|
| 7420AV | 420Mb | 12ms | 3.5" | £129 |
| 7540AV | 540Mb | 12ms | 3.5" | £157 |

## QUANTUM

- |           |       |      |      |      |
|-----------|-------|------|------|------|
| Maverick  | 270Mb | 17ms | 3.5" | £123 |
| Lightning | 365Mb | 15ms | 3.5" | £133 |
| Maverick  | 540Mb | 10ms | 3.5" | £155 |
| Lightning | 540Mb | 11ms | 3.5" | £161 |

## SEAGATE

- |          |        |      |      |      |
|----------|--------|------|------|------|
| ST3491A  | 428Mb  | 12ms | 3.5" | £129 |
| ST3660A  | 540Mb  | 12ms | 3.5" | £149 |
| ST3780A  | 720Mb  | 12ms | 3.5" | £229 |
| ST31220A | 1050Mb | 12ms | 3.5" | £358 |
| ST9190AG | 72Mb   | 16ms | 2.5" | £189 |
| ST9385AG | 341Mb  | 16ms | 2.5" | £289 |
| ST9550AG | 455Mb  | 16ms | 2.5" | £418 |

## WESTERN DIGITAL

- |         |       |      |      |      |
|---------|-------|------|------|------|
| AC2420  | 420Mb | 12ms | 3.5" | £129 |
| AC2540  | 540Mb | 12ms | 3.5" | £154 |
| AC2700  | 730Mb | 10ms | 3.5" | £185 |
| AC31000 | 1.1Gb | 10ms | 3.5" | £299 |

## SCSI Hard Drives

- |                |       |      |  |       |
|----------------|-------|------|--|-------|
| <b>FUJITSU</b> |       |      |  |       |
| M2682S         | 355Mb | 12ms |  | £135  |
| M2684S         | 532Mb | 12ms |  | £162  |
| M2694E         | 1.0Gb | 10ms |  | £379  |
| M2903SA        | 2.0Gb | 12ms |  | £828  |
| M2909S         | 3.0Gb | 11ms |  | £1125 |

## IBM (5 year warranty)

- |          |       |      |  |       |
|----------|-------|------|--|-------|
| 0662-S12 | 1.0Gb | 9ms  |  | £399  |
| 0664-M1H | 2.0Gb | 10ms |  | £725  |
| Wildcat  | 4.0Gb | 9ms  |  | £1550 |

## HITACHI

- |           |     |      |  |      |
|-----------|-----|------|--|------|
| DK326C-10 | 1Gb | 10ms |  | £359 |
|-----------|-----|------|--|------|

## MAXTOR

- |       |       |      |  |      |
|-------|-------|------|--|------|
| 7345S | 340Mb | 14ms |  | £179 |
| 7545S | 545Mb | 9ms  |  | £239 |
| 1240S | 1.4Gb | 9ms  |  | £685 |

## QUANTUM

- |           |        |      |      |      |
|-----------|--------|------|------|------|
| Maverick  | 270Mb  | 17ms | 3.5" | £134 |
| Lightning | 365Mb  | 17ms | 3.5" | £147 |
| Maverick  | 540Mb  | 12ms | 3.5" | £179 |
| Empire    | 1.08Gb | 9ms  | 3.5" | £399 |
| Empire    | 1.4Gb  | 9ms  | 3.5" | £645 |
| Empire    | 2.1Gb  | 9ms  | 3.5" | £845 |

## SEAGATE

- |          |        |      |  |       |
|----------|--------|------|--|-------|
| ST3390N  | 341Mb  | 12ms |  | £215  |
| ST5660N  | 520Mb  | 12ms |  | £215  |
| ST31200N | 1.05Gb | 9ms  |  | £369  |
| ST12550N | 2.1Gb  | 9ms  |  | £735  |
| ST15150N | 4Gb    |      |  | £1585 |

## SCSI Cables &amp; Accessories

- |                                       |      |
|---------------------------------------|------|
| Single Drive Cable (Internal IDC)     | £8   |
| Dual Drive Cable (Internal IDC)       | £9   |
| Cent. to Cent. 50 way                 | £16  |
| 25 way D'Connector to 50 way Cent.    | £16  |
| 25 way Mini D'Conn. to 50 way Cent.   | £25  |
| 25 way Mini D'Conn. to 25 way Mini D' | £26  |
| Removable SCSI Drive Rack             | £29  |
| External Case with PSU                | £POA |

## Removable Drives

- |                |                 |               |  |      |
|----------------|-----------------|---------------|--|------|
| <b>Syquest</b> |                 |               |  |      |
| SQ3105A        | 105Mb           | IDE Internal  |  | £215 |
| SQ3105S        | 105Mb           | SCSI Internal |  | £235 |
| SQ3270S        | 270Mb           | IDE Internal  |  | £289 |
| SQ3270S        | 270Mb           | SCSI Internal |  | £349 |
| SQ400          | 44Mb Cartridge  |               |  | £55  |
| SQ310          | 105Mb Cartridge |               |  | £55  |
| SQ327          | 270Mb Cartridge |               |  | £65  |

## Teac

- |                             |      |
|-----------------------------|------|
| 250Mb Single Drive Kit      | £285 |
| 250Mb Dual Drive Kit        | £315 |
| 250Mb Additional Bare Drive | £248 |

## Parallel Port Drives

- |                                    |      |             |      |      |      |
|------------------------------------|------|-------------|------|------|------|
| <b>BackPack Hard Disk Drives</b>   |      |             |      |      |      |
| 420Mb                              | £326 | 850Mb       | £495 | 1Gb  | £615 |
| <b>BackPack Floppy Disk Drives</b> |      |             |      |      |      |
| 3.5" 1.44Mb                        | £115 | 5.25" 1.2Mb |      | £131 |      |
| <b>BackPack CD ROM Drives</b>      |      |             |      |      |      |
| Dual Speed                         |      |             |      | £314 |      |
| 4S Quad Speed                      |      |             |      | £349 |      |
| <b>BackPack Tape Drives</b>        |      |             |      |      |      |
| BP 1080 250Mb (QIC-80)             |      |             |      | £218 |      |
| BP 90 680Mb                        |      |             |      | £369 |      |

## PC Mouse

- 2 Button Aries Mouse (Serial) £12
- 2 button Mouse (Serial) £8
- 2 button PS/2 Mouse £8

## Logitech Products

## SCANNERS

- ScanMan - Colour 24 bit with OmniPage Direct £195
- ScanMan EasyTouch £121
- ScanMan PowerPage £309
- ScanMan 256 PC Win £96
- ScanMan 32 PC Win with OmniPage Direct £63

## MOUSE

- Chroma Mouse £24
- Mouseman Sensa Mouse £38
- Mouseman Bus £38
- My Mouse £18
- MouseMan Cordless (Small) £49
- MouseMan 10 pack Bulk £249
- Pilot II Mouse - Serial £17
- Pilot II Mouse - PS/2 £17

## TRACKERBALL

- Pilot TrackMan £27
- TrackMan Voyager £48
- TrackMan II Combo (Serial/PS2) £42
- TrackMan Portable (Serial/PS2) £32

## JOYSTICK

- CyberMan £59
- WingMan £25
- WingMan Extreme £32

## MULTIMEDIA

- AudioMan £76
- SoundMan Wave Sound Card £139
- FotoMan Plus £376

## Genius Products

## Mouse 3+

- Includes powerful imaging software: PC Paintbrush for Windows, Media Mate Presentation Software, MouseMate Driver and Pad £20
- Mouse 3 with Driver only £12

## HiMouse The Advanced Mouse

- HiMouse - Serial £19
- HiMouse - Serial & PS/2 £21
- HiMouse - Cordless £20

## Mouse One &amp; Mouse Too

- MouseOne PS/2 £8
- MouseOne - Serial 2B £8
- MouseToo - 350-1050dpi £11

## HiMouse Lite

- High performance Optical Mouse £35

## HiPoint

- The Smart Mini-Trakerball £19
- HiTrak - (Serial & PS/2) £22



## New Sketch

- New Sketch 1812 £185
- New Sketch 1812D £209

## ScanMate 32 &amp; 256

- Black and White scanner with 32 Halftones £49
- 256 true grey scale & B/W scanner £65



## ScanMate Colour

- ScanMate Colour, 24 bit 800 dpi Scanner £155

## Easy Painter

- Amazing value graphics tablet gives you the chance to exercise your creativity. Includes PC Paintbrush for Windows that provides dozens of natural paint tools, complete Utilities Disk, Stylus Pen and keyboard power adaptor £67

Max dpi is dependent on available system memory.



# Memories, Modems, Data-Storage, Facsimile, Spares, Accessories



## Motherboards

- CEA1800** – (VLB) 486 Upgradeable MB, 256 Cache, ZIF (3 x VLB, 4 x ISA slots. Memory: 2 x 72 Pin, 4 x 30 Pin) **£62**
- CEA5000** – (PCI) EnergyStar 486 Upgradeable MB (to Pentium Overdrive), (EPP, ECP), 256K Cache, IDE, Enhanced Parallel Port, Dual Serial Ports, (16550) 3 PCI Ports, White ZIF **£119**
- CEA5010** – (PCI) Pentium P60/66MHz MB, 256K Cache, On-Bd PCI Enh. IDE, Upg. to 192Mb White ZIF **£148**
- CEA5050** – (PCI) Pentium P90MHz MB, 256K Cache, On-Bd PCI IDE, Enhanced Parallel, Fast 16550 Dual Serial Ports, 3 PCI Ports, White ZIF **£168**

## Processors

- INTEL**
- i486SX2-50MHz **£62**
- CIA0020 i486SX-33MHz **£62**
- CIA0050 i486DX2-50MHz **£89**
- CIA0060 i486DX2-66MHz **£119**
- CIA0100 Pentium P60MHz **£198**
- CIA0110 Pentium P66MHz **£219**
- Pentium P75MHz **£249**
- Pentium P90MHz **£399**
- AMD**
- CIA0720 AMD486DX2-66MHz **£98**
- CIA0730 AMD486DX2-80MHz **£109**
- CIA0740 AMD486DX4-100MHz **£169**

## PC AT Keyboards

- All keyboards are with 102 keys
- EntryLevel (ELV) Keyboard **£14**
  - Aries Click-Action (Alps Keys with Dustcover) **£32**
  - KeyPro Programmable Keyboard with LCD Calculator, Diagonal Cursor Keys, keylock **£49**
  - KeyTrack Keyboard with built-in Trackerball **£39**
- Cherry new low cost keyboard Call for pricing*
- New Cherry Membrane **£18**
  - Cherry G83-3210 Membrane **£23**
  - Cherry G80-3000 Click-Action **£33**
  - Cherry G81-3000 Soft-Action **£31**
  - MS Natural Keyboard **£67**

## PC Spares

- CPU Cooling Fan with Heatsink (486) **£12**
- CPU Cooling Fan with Heatsink (Pentium - P60/P66) **£16**
- CPU Cooling Fan P90 **£19**
- Coiled Keyboard Extension Lead **£6**
- PS/2 - AT Keyboard Adapter **£4**
- 200W PSU Unit (Desktop/Mini Tower) **£32**
- 230W PSU Unit (Full Tower) **£42**

## Roland Plotters

- DXY1150 **£575** ● DXY1250 **£725**
- DXY1350 **£939** ● DPX2800 **£2POA**
- Sketchmate A4 **£335** ● S/Mate A3 **£499**

## Floppy Disk Drives

- **UC600** 5.25" 1.2M 96tpi Double Sided High Density, Disk Drive **£35**
- **UC35/6** 3.5" 1.44M Drive **£22**
- 5.25" Fixing kit for 3.5" Drives **£4**
- **UC35/55** – Combined 3.5" 1.44Mb & 5.25" 1.2Mb FDD **£85**
- **US35/9** 3.5" 4Mb (2.88Mb when formatted) Drive (Capable of reading/writing 720K & 1.44MB) **£62**
- 5 Head Floppy Cable **£5**

## Watford Fax/Modems

- XL-144i** Internal 14400bps V.Fast, V32bis, V42bis, MNP5 **£87**
- XL-144E** External 14400bps V.Fast, V32bis, V42bis, MNP5 **£89**
- XL-V34i** Internal 28800bps V34, V32bis, V42bis, MNP5 **£179**
- XL-V34E** External 28800bps V34, V32bis, V42bis, MNP5 **£185**
- All Watford modems are BABT approved, have a 3 year warranty & come with Winfax Lite

## PACE Fax/Modems

- Manufacturer's 5 Year No-Quibble Warranty**
- DESKTOP MODEM**
- Pace – Mobifax **£75**
- Pace – Mobifax 14.4 **£109**
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- Linnet 32+ VFX – V32bis, Datafax & Voice **£155**
- Linnet 34 VFC **£269**
- Ultralink 32+ – LCD panel, V32bis, leased line **£330**
- POCKET & PC CARD**
- Microlin Fx – Internal Card **£79**
- Microlin Fx – Pocket Unit **£94**
- Microlin Fx 32+ – Internal Card **£134**
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- PCMCIA Fax Modem**
- Microlin Fx NB24 **£124**
- Microlin Fx NB32+ **£190**
- Except for Linnet, all PACE Fax/Modems are supplied with Cables, Win/DosFax & COMIT softwares

## US Robotics Modems

- |   | Int         | Ext         |
|---|-------------|-------------|
| Sportster 14.4 Fax/Modem                | <b>£126</b> | <b>£129</b> |
| Worldport Dual Cellular                 | <b>£175</b> | <b>£175</b> |
| Courier v34 Fx/Md                       | <b>£260</b> | <b>£260</b> |
| Worldport PCMCIA 2496 Fx/Md             | <b>£129</b> | <b>£129</b> |
| Worldport Dual standard cellular PCMCIA | <b>£196</b> | <b>£196</b> |
| Connecting Cable 9/25                   | <b>£8</b>   | <b>£8</b>   |
- Price includes software.

## Dataflex Fax/Modems

- | GEM Fax Pocket              | V22bis              | £45         |
|-----------------------------|---------------------|-------------|
| GEM Fax PCMCIA              | V22bis              | <b>£129</b> |
| HyperGEM PC/Int             | V34                 | <b>£219</b> |
| HyperGEM Portable           | V34                 | <b>£219</b> |
| HyperGEM Desktop            | V34                 | <b>£229</b> |
| SuperGEM PC Card            | V32bis 14.4K        | <b>£137</b> |
| SuperGEM Portable           | V32bis 14.4K        | <b>£115</b> |
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| Rapier Plus PC Card         |                     | <b>£319</b> |
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| Rapier V.Fast Class Desktop |                     | <b>£358</b> |
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  - GTX6500 SCSI I/F **£567**
  - GTX8000 Parallel **£660**
  - GTX8000 SCSI **£720**
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- Ser3A 256K **£229** ● Ser 3A 512K **£269**
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- Flash Solid State Discs (SSD)**
- 128K **£30**; ● 256K **£48** ● 512K **£79**
- 1Mb **£139**; ● 2Mb **£199**
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- RS 232 Serial Link for PC **£58**; Mac **£59**
- Mains Adaptor 9V AC **£12**
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- Leather Case **£21** ● Desk Stand **£15**

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|----------------|-------------|-----------------|-------------|
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| 1Mb x 9 3 Chip | <b>£28</b>  | 8Mb - 2Mb x 36  | <b>£259</b> |
| 1Mb x 9 9 Chip | <b>£42</b>  |                 |             |
| 4Mb x 9 9 Chip | <b>£115</b> | 16Mb - 4Mb x 32 | <b>£379</b> |
| 4Mb - 1Mb x 32 | <b>£125</b> | 16Mb - 4Mb x 36 | <b>£395</b> |

## Maths Co-Processors

- |                  |             |                  |             |
|------------------|-------------|------------------|-------------|
| 8087-8MHz        | <b>£87</b>  | 80387DX-         |             |
| 8087-10MHz       | <b>£115</b> | 20/25/33MHz      | <b>£44</b>  |
| 80287-8/10/12MHz | <b>£35</b>  | 80387DX-40MHz    | <b>£45</b>  |
| 80287-20MHz      | <b>£45</b>  | 80487SX-         |             |
| 80387SX-16/20MHz | <b>£38</b>  | 16/20/25MHz      | <b>£275</b> |
| 80387SX-25MHz    | <b>£38</b>  | Overdrive 486SX- |             |
| 80387SX-33MHz    | <b>£42</b>  | 20MHz-32/40M     | <b>£188</b> |
| 80387SX-40MHz    | <b>£44</b>  | 25MHz-50M        | <b>£188</b> |

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- Multimedia Case with PSU (Desktop) **£78**

## Fax Machines

- |                 |             |              |             |
|-----------------|-------------|--------------|-------------|
| Canon Fax B200S | <b>£629</b> | Oki Fax 1000 | <b>£910</b> |
| Canon Fax B340  | <b>£819</b> | Pana UFV40   | <b>£259</b> |
| HP Fax 900      | <b>£545</b> | Pana UFV60   | <b>£340</b> |
| HP Fax 950      | <b>£695</b> | Pana UF321   | <b>£669</b> |
| KXF2400E        | <b>£390</b> | Pana UF322E  | <b>£769</b> |
| Oki Fax 450     | <b>£279</b> |              |             |

## Tape Streamers



- HP Colorado**
- DJ-20 250Mb Internal **£94**
- DJ-35 350Mb Internal **£112**
- DJ-25 680Mb Internal **£195**
- KE-10 PC External Kit **£66**
- KE-15 PS/2 External Kit **£77**
- FC-20 Fast Tape Controller **£52**
- TC-15 Fast Cont with H'Ware Comp. **£123**

## Parallel Port Tape Drive

- Trakker 250 (QIC-80) **£187**
- Trakker 350 **£216**
- Trakker 700 **£298**

## Colorado Backup Software

- SK-7 Windows Software Pack **£39**
- SK-1 Sytos Plus for OS/2 **£78**
- SU53-J – SCO Unix/Xenix Pack **£72**

## iOmega Storage Solutions

- |                  | Internal    | External    |
|------------------|-------------|-------------|
| 250Mb Tape Drive | <b>£87</b>  | <b>£162</b> |
| 680 Mb Tape 700  | <b>£195</b> | <b>£259</b> |

## Data Cartridges

- |        |            |           |            |
|--------|------------|-----------|------------|
| DC2000 | <b>£12</b> | DC2120    | <b>£9</b>  |
| DC6150 | <b>£11</b> | DC6250    | <b>£16</b> |
| DC6525 | <b>£17</b> | MC3000 XC | <b>£15</b> |



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# CD NOW

**Martin Gittins and Kerry Culbert spin the latest releases on silver disc**

## The Myth of the Ten Lost Tribes

**S**UBTITLED *Beyond the Sambatyon*, this CD-Rom from Creative Multimedia offers a fascinating account of an event that has shaped world society for nearly three millennia – the exile of the 10 tribes of Israel and their subsequent dispersal across the globe.

First, some history: The 12 children of Israel each formed a tribe in the Kingdom of God. This became fragmented into the two kingdoms of Judah – comprising two tribes – and, Israel, composed of the other 10. When the Assyrians conquered the northern land of Israel, the 10 tribes were exiled from their country and prevented from returned by the magical river of Sambatyon.

Initially they were dispersed to Mesopotamia and Medes – modern day Syria and Iraq respectively – but since then have become scattered

across the Earth. So where are the 10 Lost Tribes now?

This disc, though not providing the answers, attempts to collate the evidence, legends and historical background that links tribes and cultures around the world with the kingdom of Israel – part legend, part myth, part fact and part apocrypha

near a book upon this subject, but the CD-Rom format and the uses of graphics, text, and excellent narration by Stacey Keach – of Mike Hammer fame – drew me in, resulting in my learning more about things I previously knew or cared almost nothing about.

The main aspect of the disc are 10

historical lineage to Israel, while the Personalities section gives biographical details on some of the principle figures in the history of the Diaspora. At times the disc comes across as an epic fiction rather than an attempt by societies to uncover their roots.

This is a very specialised product that will not appeal to the casual user. It would however, make an excellent addition to a school library or resource centre, or for anyone interested in the history of Jewish culture and the land of Israel.

**Martin Gittins**



The biographies of 10 key personalities add background information

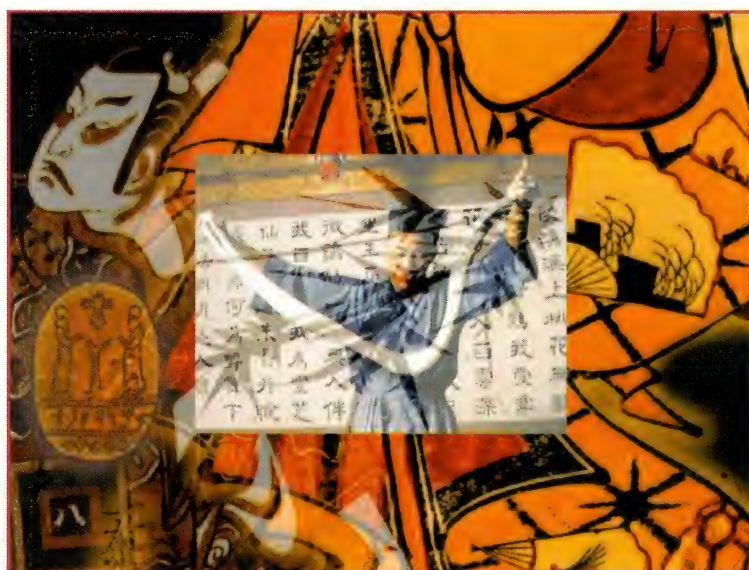
Sorting the fact from the fiction is left up to the user of this interactive disc. Put together using Macromedia Director, it is a great example of the way multimedia can be used to present a subject in a way that is lively and engaging.

There is no way I would have gone

lengthy narrated and animated *chapters* describing the quest to locate and identify where the Lost Tribes are to be found today. Some of the evidence is very compelling, some of it vague and insubstantial.

The Atlas section looks at tribes and societies around the world that claim

Product	The Myth of the Ten Lost Tribes
Price	£18a
Supplier	US Gold
Tel	0121-625 3366
✓	Makes an academic subject lively and pertinent
✗	Of limited general appeal unless you like historical investigations
PCH Verdict	★★★★★☆



Elements of Hebrew language and Israeli culture can be found in Japan



Eleven chapters describe the quest to find the lost tribes



## Isaac Asimov's The Ultimate Robot

**T**HE latest product in the Microsoft Home range offers a complete guide into the world of robots and insightful thoughts from the famous Science Fiction author Isaac Asimov.

He wrote a lot of books that featured robots and even came up with *The Three Laws of Robotics* designed to ensure that robots remained our slaves and never became our masters.

Unfortunately, our Isaac was full of such pomposity and in a whole host of video interview clips gets to expound upon even more of his overblown and self-important theories. But the people who put this disc together are obviously big fans of the man.

But ignoring Asimov for a moment, if you are a fan of robots, androids, cyborgs and automatons, this disc is going to be tremendously appealing. As well as loads of hard technical facts and theories, there are plenty of pictures and video clips of both actual robots and imaginary types from the realms of science fiction film and literature.

In all, eight sections are accessed from a main menu called the Robotron Selector. My favourite robot, Robbie, from *Forbidden Planet* is given special coverage. I always used to like the way he could carry two-ton steel girders without tipping over and fabricate vast

quantities of rot-gut whisky from its constituent chemicals.

But this is a very uneven product. To counterbalance the quality of the robotics and the robots in literature sections, items like the Robotoid Assembly Toolkit are utterly dire. I'm sure that I've seen this before on an earlier Microsoft Home product, but it still hasn't been improved.

The idea behind it is that you can build your own robot from a number of parts created by Star Wars robot designer Ralph McQuarrie. Unfortunately, the parts look awful and putting them together is about as much fun as listening to Asimov.

The subject matter is an interesting one and could have made a superb multimedia disc, but this product lacks cohesion and consistency, and I get the impression that it is the sum of a number of disparate parts rather than a thorough overall project.

And while Asimov adds a certain celebrity draw to the product, isn't it about time we started to realise that his contribution to the science of robotics has been pretty limited.

**Martin Gittins**

Product	The Ultimate Robot
Price	£59.95
Supplier	Microsoft
Tel	0734 270001
✓	Interesting stuff about robots
✗	Asimov is a pompous windbag
PCH Verdict	★☆☆☆☆

## Vid Grid

**R**OCK music videos are a bizarre art form, seeking to accompany a loud, energetic form of music with a visual style to match. Consequently most employ a lot of very quick cuts and other video techniques such as cross fades, superimpositions and special effects. All in all, a visual and aural assault of the senses.

Strange then that one should come up with idea of taking a selection of rock videos by the likes of Van Halen, Ozzy Osbourne and Metallica and turning them into moving puzzle games.

This has the effect of turning said visual assault into an eyeball overloading full-out optical D-Day. Unfortunately, I get the impression that this is the general idea. Maybe I'm just getting old.

Remember moving puzzle games? It's where you have to slide a piece of a grid of jumbled up squares of a picture to reform the image.

In the case of VidGrid though, the images are not static but full length digital videos of nine rock music videos, and there is a greater variety of movement options and puzzle parameters. Basically though, it's the same principle, and I'm sorry to say, about as much fun.

I used to be into heavy metal. Honest, I did. But, like fighting with your brother and thinking girls are yucky, it's something you grow out of.

Nonetheless, a bit of Red Hot Chili Peppers or Soundgarden got my feet a-tappin' and I was soon rocking out and sliding pieces while my brain slowly fried.

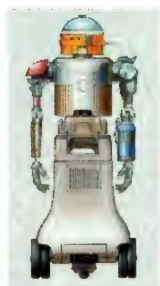
But with only nine videos to choose from, this product has very short-term appeal, unless you are an absolutely rabid metal-head. In which case the bizarre appearance of Peter Gabriel's Sledge-hammer might put you off the CD altogether.

You have to solve all nine puzzles on level one before you can progress to level two and so on, but there's still only the same nine videos. There's only so much Aerosmith a man can take.

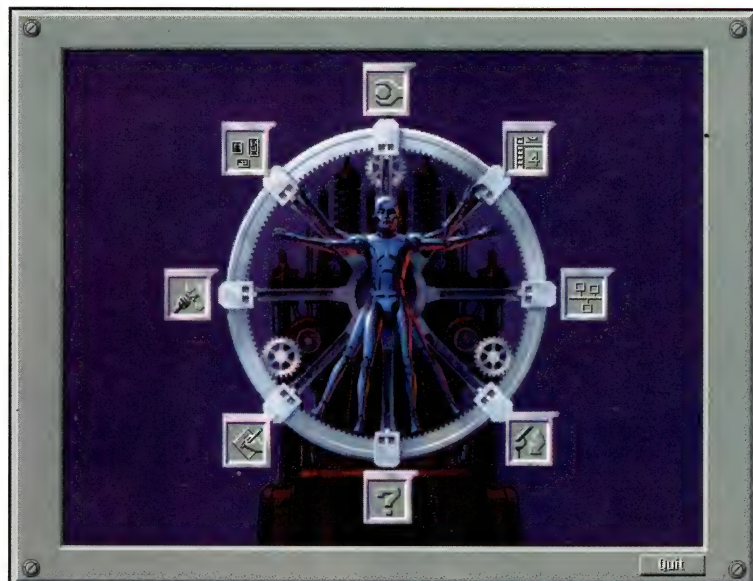
You can try and beat your best time or compete against a friend, but essentially, Virgin Interactive have developed a technically excellent product with almost no lasting appeal.

**Martin Gittins**

Product	VidGrid
Price	£29.99
Supplier	VIE
Tel	0181-960 2255
✓	Quality of the digital video is superb
✗	Won't last you more than a day
PCH Verdict	★☆☆☆☆



Build your own cyborg



The Robotron selector is where you choose what to learn about



Take your pick from a range of video clips



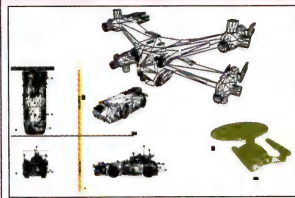


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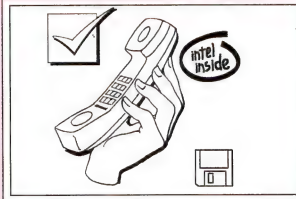
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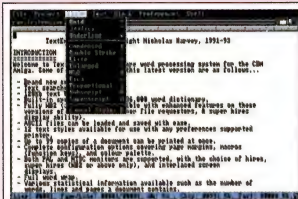
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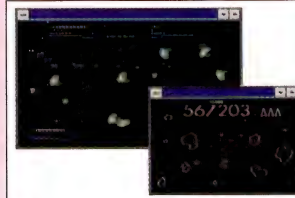
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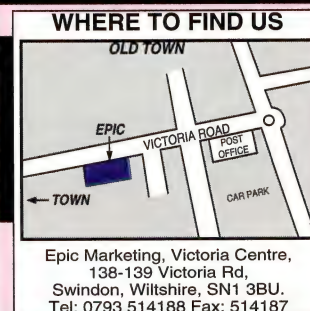
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## Complete Multimedia Bible

**W**HETHER you're a believer or not, there's no denying that the bible is one of the most comprehensive studies of history, human emotion and civil law going.

However, to make Christianity relevant to a modern audience is difficult, because even the streets of current Jerusalem bear little resemblance to biblical times.

Yet Christ's teachings were themselves revolutionary, and The Complete Multimedia Bible is both more relevant and approachable than dry printed text.

Whole books of the bible repeat themselves and ramble to drive points home. So for the newcomer it's useful to be able to call up summaries of individual books. Reach for the guidance section for advice on everyday issues like love or financial burdens, or consult maps of the Holy Land and journeys of Christ, and you'll be drawn into the melting pot that is the bible.

It really helps to see video footage of the Holy Land when trying to imagine the kind of world Christ inhabited. Walk through the streets of Jerusalem with TV presenter Kathy Taylor, and call up related passages. Over 25 minutes of full motion video operate in a small boxed area and feature many different camera angles.

The multimedia component includes pieces of inspirational music

played in their entirety like Franz Schubert's *Ave Maria*, while snapshots of architecture and *objets d'art* widen the scope of the material.



Let Kathy Taylor take you on a guided tour of Jerusalem

It's extremely easy to use too, with icons littered down one side explaining what's what, and still more at the top and bottom. If anything there's too much help. Thankfully this is mostly a blessing. Complex sentences and obscure, dated words are decloaked in the dictionary, and there's views from scholars old and new. This inspirational offering is a must

for anyone, old or young, interested in knowing more about Christianity, either for personal fulfilment or study purposes.

Kerry Culbert

Product	The Complete Multimedia Bible
Price	£164
Supplier	Compton's New Media
Tel	071-490 1323
✓	The voice of James Earl Jones adds panache to a fully integrated multimedia experience
✗	There's not much information on other versions of the bible or guidance on additional research

PCH Verdict ★★★★★☆

## Jumpstart Kindergarten

**E**VERY so often a nursery product hits the market which encourages social interaction among peers. Jump Start Kindergarten is cross-curricular and ideal for introducing pre-schoolers to basic maths, reading, language and art skills. For maximising usage, try it out on several children integrating in a childminder's home-based playroom or in a small nursery group.

A big deficiency in products like this is that they don't explain what to do on screen or zip through instructions too quickly. In JK a rabbit lends a guiding hand, speaking slowly and clearly. You're first introduced to him in the classroom, which is also the main menu screen, where some of the activities take place.

Many products fall into the trap of just having objects and characters move around to entertain. In this classroom, actions are sustained to inform: The TV comes alive and provides video footage of related topics, and the number pad spews mice across the screen, changing in volume according to the number selected.

Many of the secondary screen games share a well thought out perspective and reward system. The paint package isn't just about colouring in – a child must see what's wrong about the picture before starting drawing operations.

Although intended for the four to six age range, there's more here for the

bright three to four-year-old. This is because many of the activities concentrate on building understanding of everyday events like celebrations, what to do at different times of the day, or picking the right flashcard to make a matching pair.

Children with communication difficulties or pre-readers can increase confidence by building sentences out of pictures, and the songs can be played on an audio player using the lyrics in the instruction manual. There's certainly

plenty here, but the video content is tiny and some activities are a lot more comprehensive than others.

Nevertheless, the progress report will give some idea of the developmental level of the player, even if the curriculum guide is American based. An eager child as young as four will get something out of Kindergarten unaided.

Kerry Culbert

Product	Jumpstart Kindergarten
Price	£44.95
Supplier	Guildsoft
Tel	01752 895100
✓	Most of the 16 activities help build kids' understanding
✗	Some activities have minimal content and value

PCH Verdict ★★★★★☆



Detailed maps make retracing the steps of biblical journeys easier



The main activity room is full of interactive games



## Aviation

**W**HILE Aviation has familiar markings of a standard Knowledge Adventure product, there is an important enhancement. Children can often consolidate what they've learned through craft products, and the eight-year-old, teenager or big kid will love watching 3-D movies on how to transform sheets of paper into 12 very different planes.

Refreshingly, the information content is high and balanced for all age groupings.

Three games test aviation knowledge, including a trivia quiz, complete with snappy music and polished presentation. The only trouble is so much effort has gone into presentation that the designer omitted displaying correct answers when the responses were incorrect.

Aviation is drawn from two encyclopaedias on the history of flight, and humour is interjected amid the hard fact. The Blooper Theatre includes video footage of flying blunders, with over-the-top commentary.

This is mellowed by the ability to peel off layers of mainstream aircraft visually and textually, resulting in close-ups of a space shuttle or discovering what makes a propeller spin. Over 200 aircraft are documented in this way.

As always the integration of movies, text and printable photographs is excellent. The carefully textured borders and

contrasting colours of control panels and text is extremely easy on the eye.

Adults will get more from the documentaries, including flights as contemporary as 1993 and inside tips and hints from aviation experts. There's plenty of archive material, both colour and black and white, but the video clips are a little short.

As such a wide audience is catered for, the commentary is pitched at a young audience, which is a bit strange interlaced with high brow detail. Otherwise,

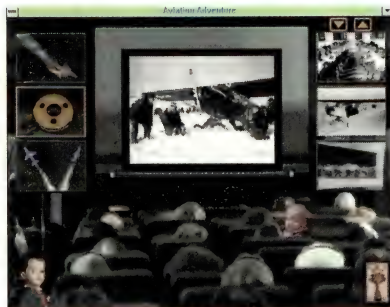
you'll be hard pushed to find a more authoritative focal point of aviation news and views.

A way forward is the inclusion of free subscription to *Aviation Magazine* and a guide to 500 aviation museums. Fine, as long as you live in America. UK developers take note please.

**Kerry Culbert**

<b>Product</b>	Aviation Adventure
<b>Price</b>	£44.95
<b>Supplier</b>	Guildsoft
<b>Tel</b>	01752 895100
✓	Great for dipping in and out of serious and whimsical aspects of air borne travel
✗	Fine detail in game structure is sometimes lacking

**PCH Verdict** ★★★★★☆



Chuck at amazing aviation blunders



Spend hours working on the paper plane craft project

## Romeo and Juliet

**A**S an undergraduate I spent hours rooting out precious critical perspectives gathering dust on second-hand bookshelves, and all for the sake for a few extra marks on some essay or other.

No need to waste time doing that these days. Critical opinions from Hazlett to the Guardian in 1994 are all there ready and waiting on this CD, not to mention video and audio footage of scholar's interpretations. There's an overview of costume and set design, and a host of background material on Shakespeare and the play.

The way the sections logically link to each other enhances learning. A hexagon shaped menu houses a character category, including Juliet. This leads to a pictorial screen of actresses who have taken on the mantle over the years.

Incorporate the multimedia section and watch Juliet utter her last breath courtesy of video footage of a BBC production. Extracts from key scenes can be of considerable length and aid learning of quotes for those dreaded essays. The play can be listened to in its entirety, but a full video rendering is perhaps too much to ask.

There's still a place for reading dusty printed editions of tragic love tales and letting the imagination run riot. Ultimately plays are for watching though, and *Romeo and Juliet* is visually appealing.

There's background information provided by scholars, including over

50 minutes of audio and visual resources. Musical compositions emulating from the bard's work are explored, and costume and theatre design investigated. The minute the



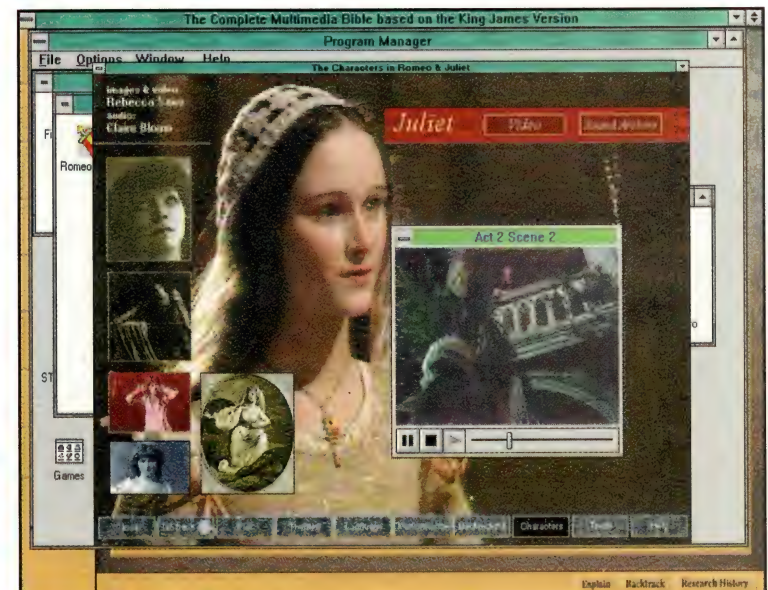
The main menu is easy to investigate

menu screen is accessed – with that familiar musical accompaniment in the background – you know that Attica have achieved yet another success in terms of high quality resource material which is user friendly.

**Kerry Culbert**

<b>Product</b>	Romeo & Juliet
<b>Price</b>	£57.58
<b>Supplier</b>	Attica Cybernetics
<b>Tel</b>	0865 791346
✓	An approachable study aid for literature students or anyone wanting to know more about the play
✗	A video of the entire BBC production would have been nice

**PCH Verdict** ★★★★★☆



Watch Juliet utter her last breath



# CD-Roms & Shareware from

## UTILITIES/GRAPHICS/CAD

- 10309 Magic Desk, superb menu front end
- 10530 Automenu, super menu maker
- 10517 Powermenu Plus, menuing & more! (2)
- 10518 Quik Menu III, graphical menu maker
- 10127 Screen Thief, grabs any screen
- 9568 Explosive! outstanding screen blanker
- 9750 Disk Duplicator, any format fast!
- 12259 Easy Format, for easy formatting
- 9854 LQ, famous dot matrix print enhancer
- 12272 Integrity Master, anti-virus tool
- 9412 McFee's anti-virus toolkit (2)
- 9932 PKLite, great .exe file compressor
- 9438 PKMenu, front end menu for PKZip etc
- 10023 PKZip\PKUnzip, file compression utils
- 9880 Maxiform, more disk space formatter
- 2295 Envision, outstanding graphics DTP (2)
- 11219 Neopaint, great painting/drawing program
- 11210 Neobook, presentation package & more!
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- 10920 Fractinct, famous fractal viewer
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- 10647 EEDRAW, ideal for electronic schematics
- 10699 PC Draft Cad, full powerful CAD program
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- 10673 Flodraw, produce flow charts/org charts
- 10673 Home Plan, for the DIY guy!
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- 11232 Graphics Workshop, image manipulator etc

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- 9516 Ample Notice, appointments manager
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- 11934 Calendar Mate, calendar/scheduler/tickler
- 8047 Calendar Keeper, calendar database
- 11947 Dr Memory, for appointments & events
- 12207 Early Bird, UK calendar/tickler etc
- 7280 Time Lord, UK personal organiser
- 12077 Friday, TSR calendar/organiser
- 11986 Organise, memos, events, appointments

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- 14508 ACE, mapper, ephemeris & database
- 14534 Deep Space, star maps, planets etc
- 13737 Night Sky, star mapper & plotter (2)
- 13740 Skyglobe, high resolution star gazer!
- 8801 Amateur Radio Log
- 8013 SuperMorse, morse tutorial collection
- 15314 Telemate 15301 Eazilink
- 15431 Odyssey (2) 15379 QModem (2)
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- 15457 Eazihost BBS 15483 Sapphire BBS
- 15470 Wildcat BBS (2) 15496 RBBS (2)

## SPREADSHEETS & STATISTICS

- 1014 As Easy As V5.5 1027 Expresscalc (2)
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- 1196 Promatheus, mathematician's calculator
- 1066 KwikStat, comprehensive stats package
- 3588 Arcus-Pro II, top UK stats program (3)
- 1118 PC-Stat, statistical reports program
- 3601 Microstats, fast statistical analysis
- 3614 Survey, for questionnaire analysis
- 3637 Easistat/plot, analysis & graphing (2)
- 3630 Mathsplot, define/plots functions
- 3633 Zgraf, create/print maths graphs
- 3634 Simstat, menued stats analysis
- 3636 Confusion & Light, fractal generator
- 3639 Recursive Realm, fractal system
- 3642 Mandelbrot Magic, generator

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- 3042 PC-File V7, new graphical interface (2)
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- 4303 Information Please! freeform text etc
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- 4433 Zephyr, Fox-pro compatible database (3)
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- 4225 Data Pal, ideal list/label manager

- 4290 Freeform, easy data entry/retrieval
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- 4563 Scraps, super random info manager
- 4576 JEPRS, bibliographic database system
- 4589 BIBL, bibliographic database system
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- 5941 Home Finance Companion UK, superb!
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- 6253 Page Cheque Manager, home/business
- 6097 PC-Budget, home/business accounts
- 6279 Trinity, UK home accounts
- 6305 Personal Portfolio Manager
- 5928 Capital Gainz, portfolio manager
- 6292 Share Genius, UK share tracker
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- 8645 Trees II, proven UK package
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- 8216 Rootsmaster 8647 Family Ties
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- 9009 Organise! your classical records
- 9282 Organise! your photographs
- 9283 Organise! any collection (Windows)
- 8827 Video Collector ● 8996 Stamp Collector
- 4307 Club Membership 8554 Home Contents
- 9074 Birdbase, for birdwatching enthusiasts
- 9022 Matchmaker, sports league/match maker
- 9033 Blazon, Heraldic design & drawing
- 8918 Football Forecaster, UK pools program
- 8840 Punters Pal, UK racing form analysis
- 8879 Golf Performance analyser
- 8658 Cricket Master, cricket scorer/database
- 8567 Meal Master, recipe database
- 8151 Personal Nutritionist, diet analyser
- 8268 The Better Diet Analyser
- 9035 Foodbase, UK nutrition/food/diet/recipe database, great new arrival!
- 8931 Edna's Cookbook, cookery database
- 8932 Edna's Recipe Collection, for above (4)
- 8606 Book Librarian 8203 Resume Master
- 9217 Astromart, astrological chart maker
- 9230 Astro, astrological analysis program
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- 9139 Personal Tarot 9126 Mayan Calendar
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- 8281 VC Library, video catalogue
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- 5018 Freeway Cashbook, easy to use (3)
- 5031 Freeway PAYE-Master, UK flexible (2)
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Dinosaur Database, entertaining game  
Word Gallery, word/picture matching game  
Multiplication Primer, tables learner  
The Driller, arithmetic drill for youngsters  
Snakes, fun sumes for Kids  
Tell the Time Kid Games

### JUNIOR:

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Maths Castle, arithmetic skills game  
● Word Rescue Spellbound  
● Maths Rescue Adventure Maths  
Word Games Collection for juniors  
Monarch, UK monarchs quiz/database  
Flags, of the world plus a quiz  
Googol Review, math games compendium  
Googol Maths Games, plus test & tutorial  
Animal Quest, food chain ecology game  
Childrens graphics, drawing & colouring  
Mighty Maths, table tutor & test mode

Metric Measurement Tutor  
Punctuate, interactive grammar tutor  
Balloon Speller, three spelling games  
Spelling Bee, vocabulary builder  
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### SENIOR:

Chronos, historical dates/relationships  
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Calfacts GCSE Mathematics (self tutors)  
Calfacts Computer Studies  
Caltest GCSE Integrated Science  
DC1, introduction to DC electronics  
DC Circuit Analysis, incl computer circuits  
Senior Physics Facts, hypertext tutorial  
Algebra, interactive algebra tutorial  
Calculus Tutor Electronics Tutor  
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PREP, question authoring system  
Q & A Study, testing/quiz compiler  
Quizmaster, create & play quizzes  
Testwriter, test writing program  
Capworld, geography trivia game  
Trivia Quiz, complete your own quiz  
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## Andrew Wright looks at the happenings and new products popping

## PC Home April 1995



# AND ROUNDUP

up in the try-before-you-buy industry

## Child's Play

**E**AGLE-EYED readers will have noticed last month's deliberate mistake – I promised a review of the new kid's paint package, Child's Play, but due to circumstances beyond my control it never appeared. To make amends – and with apologies to any disappointed youngsters out there – here we go.

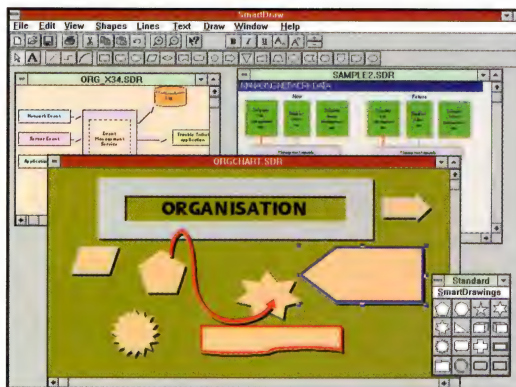
Child's Play runs under Windows 3.1 in any resolution and in either 16 or 256 colours. It runs perfectly well on 386 machines but prefers 4Mb of memory and a sound card to get the most from the program.

It presents a wide range of painting tools and special effects in an easy to understand menu, each one with its very own sound effect. For example, there are a number of natural media drawing and painting tools, so youngsters can experiment in style with media they're likely to have come across in the classroom or on the kitchen table. The list includes charcoal, chalk, quill pen, spray can, pastel and crazy pen.

The more traditional tools are there too, including variable width pens, lines and shapes such as squares, rectangles and circles. There are a few odd variations like the tri-colour spray tool, braided rug, strings and the bug splat gun. Special effects tools are all great fun and are accompanied by wacky sounds. Pictures can be erased in different ways, using a curtain effect, a bomb or a fade, for instance, and this makes creating, designing and then erasing pictures an interactive process. Works of art can be saved in BMP format and output to colour printers using



Painting is child's play with this entertaining package



SmartDraw is easy to use and low priced

the Windows drivers. With a simple interface that is easy for children to manage and a large paint area, it promises fun for all the family at a realistic price.

<b>Product</b>	Child's Play
<b>Author</b>	Alston Software Labs
<b>Registration</b>	£14.95
<b>Supplier</b>	Thompson Partnership
<b>Contact</b>	01889 564601
<b>Eval copy</b>	Most PD libraries or Thompson Partnership

**PCH Verdict** ★★★★★☆

## SmartDraw

**I**NTELLIGENT drawing programs are very much in demand, a fact that no doubt reflects adversely on the average computer user's ability with paper and pencil!

By intelligent, I mean that the program will assist you to create a wide range of drawings by providing a readily accessible library of shapes and other features like connecting lines – ideal for

diagrams, charts, flyers, posters, maps and invitations and competes directly with the likes of Visio and SnapGraf.

SmartDraw 1.02 is an excellent example of the genre.

It is built with simplicity in mind and even provides Microsoft-like wizards to help you master the more complex parts of the program.

It includes 100 symbols on the subject of business, holidays, maps, diagrams and household objects, and all the tools and pre-drawn shapes are available from toolbars and a floating palette box. Shapes and finished drawings can be imported and exported in Windows Metafile Format or saved in the proprietary SDR format.

SmartDraw is a Windows OLE server program so it is always a mouse click away from any application that can act as an OLE client.

It is particularly useful for flowcharts and organisational charts because lines automatically remain connected when

an object is moved or resized though this a big bonus when creating intricate diagrams and illustrations too.

The program uses drag and drop techniques so adding a shape is as easy as clicking on an icon and dragging to the desired position. Objects can then be resized using the handles.

Text can be added to drawings and placed inside, above or below shapes and also remains in position when the object is changed. Full colour diagrams are supported and there is a flexible zoom feature, too.

Drawings and charts can be given a consistent appearance using the built-in colour and shadow styles. There are dozens of looks to choose from and when applied all objects and lines are altered to match.

SmartDraw requires a 386 PC or better running Windows 3.1 with 4Mb of ram.

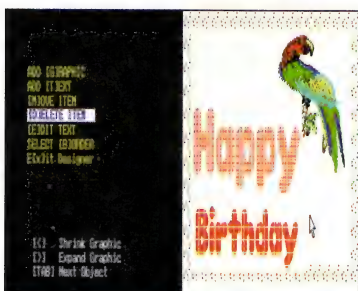
An enhanced version, SmartDraw Pro, is available with 350 symbols and publishing templates which consist of backdrops and filters for more effective design.

Bitmap images can also be imported (and exported) in PCX, TIFF and BMP formats.

<b>Product</b>	SmartDraw 1.02
<b>Author</b>	Paul Stannard
<b>Registration</b>	£28.14
<b>Supplier</b>	Thompson Partnership
<b>Contact</b>	01889 564601
<b>Eval copy</b>	Goodmans PDL (01782 335650)

**PCH Verdict** ★★★★★☆

## Print Partner 3



Print Partner – elegantly simple

**O**NE of the first programs I ever came across for a Dos computer was Print Partner. It wasn't exactly state of the art even then but it was jolly good at what it set out to do. If the number of print Partner support disks in PD libraries is anything to go by, the program is very popular too.

Several years later, it's even less like being state of the art but if you want to design things like birthday

cards, banners and calendars, quickly and easily, it can't really be beaten.

Version 3 now includes mouse support, a colour screen display and output to a range of colour printers. The developers have also added an extended character set, to include the £ sign, A4 paper borders and better page layout facilities.

Print Partner is a simple, menu-driven program that lets you build up a document step by step. It con-

tains a small clip art library, several different fonts and runs on virtually any PC.

<b>Product</b>	Print Partner 3.0
<b>Author</b>	Acropolis Software
<b>Registration</b>	£25
<b>Supplier</b>	Testware Publishing
<b>Contact</b>	0423 886415
<b>Eval copy</b>	Testware

**PCH Verdict** ★★★★★☆



**Landscapes like this can be created in minutes**

**I**f you've ever mucked about with fractal landscapes, you'll know what a fascinating subject it is. The trouble with random fractals, though, is they're just that – random. If you want to take things further and model real landscapes in three dimensions, you need a very special software package indeed, something like Landscape Explorer.

The second option is to scan a real contoured map and then use the bitmap overlay to create a 3-D view of the area. Special tools help with this, including a superb auto-tracer. This is a particularly effective tool and one that works well with a simple hand scanner and 1in to the mile OS map.

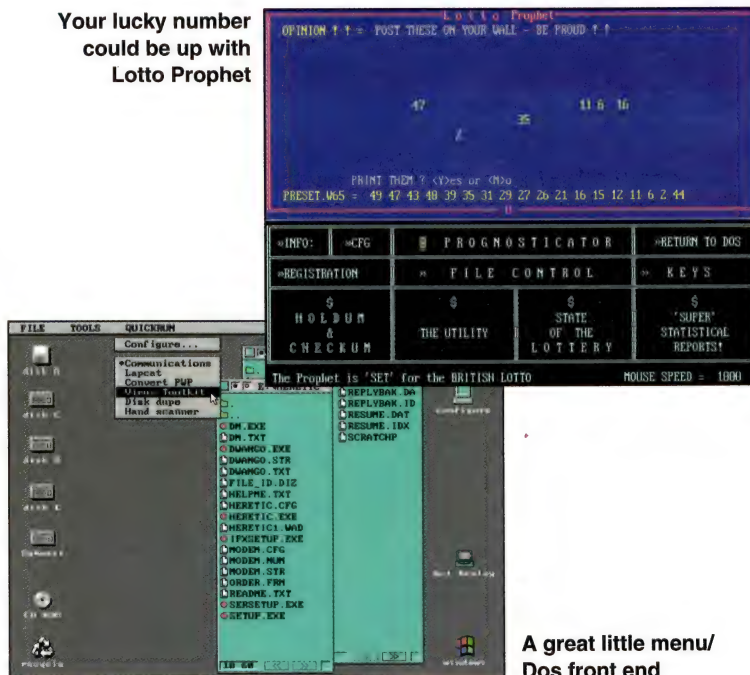
<b>Product</b>	<b>Landscape Explorer 3.0</b>
<b>Author</b>	<b>Kevin Woolley</b>
<b>Registration</b>	<b>£40</b>
<b>Supplier</b>	<b>WoolleySoft, Humblesknowe Cottage, Ramoyle, Dunblane, Perthshire, Scotland FK15 0BA</b>
<b>Contact</b>	<b>01786 825406</b>
<b>Eval copy</b>	<b>Goodmans PDL (01782 335650)</b>

**PCH Verdict** ★★★★★

Dozens of programs like Lotto Prophet will help you choose the numbers. Most of them store the previous week's numbers and generate their own predictions based on some pseudo-scientific mumbo-jumbo, the previous numbers selected or both.

Lotto Prophet v5 is no different –

**Your lucky number  
could be up with  
Lotto Prophet**



## A great little menu/ Dos front end

DeskPlus offers everything you're likely to need to look after your PC, from built-in access to Dos utilities like Scandisk (accessible from the menu) to formatting floppy disks and even archiving files using PKZip. A 386 PC is

you type in your name and star sign, write down the numbers the program produces and drink champagne until Monday when you collect a cheque for several million pounds. Or turn over and watch the end of Blind Date, as the case may be.

Product	Lotto Prophet 5.0
Author	Datamicro Inc
Registration	\$19
Supplier	As author
Contact	0101 813 629 7720
Eval copy	Goodmans PDL (01782 335650)

**PCH** **Verdict** ★★☆☆☆☆

Product	DeskPlus 3.0
Author	Joe Boatman
Registration	\$25
Supplier	As author
Contact	2904, Dartmouth Street Bakersfield CA 93305
Eval copy	Goodmans PDL (01782 335650)

**PCH Verdict** ★★★★★



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*wrote Matthew Richards in  
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'Click one of the icons in almost any other program and you'd simply be dumped in the relevant activity. In Dreamland you're transported through a richly coloured fractal vortex that swirls into the dream of your choice.

'It all sounds slightly freaky, but the effect is stunning and is yet another step in setting the high quality tone of the program.

'The design is excellent, and there is a unique, fresh and original look to the program. Overall, it's a dream'.

**PC Plus awarded Fun  
School in Dreamland  
10 out of 10 - and  
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## PERSONAL ORGANISER

### GAZE


Order Code: 19310 Total Disks: 1

 Gaze is a graphical menu which allows DOS programs to be run simply and quickly. The format is similar to that of DOS SHELL but it has a much better display. Items and Groups can be added, amended, deleted and the execution of programs can be security checked with a password. This neat little program will make you forget about DOS without having the complexity of Windows. Requires Hard Disc & VGA.

## DATABASE

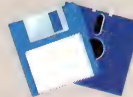
### FILE EXPRESS V5.1

Order Code: 3300 Total Disks: 3

 File Express is a well written menu driven database package and I think complete beginners will prefer this system to many others on the market. I found the menu system easy to follow and I created a database with printed reports within 30 minutes. The on-disk tutorial database did help enormously as did the extensive manual that can be printed to any printer type. Home users will find this a useful package to use as you can set up to 120 user defined fields per record and with over 15 million records possible most users will never run short. Once you have set up your records some of the facilities available to you are Sort, Display and Print and if, like me, you usually act before you think the Undelete record facility will be well used.


## PC FILE 7

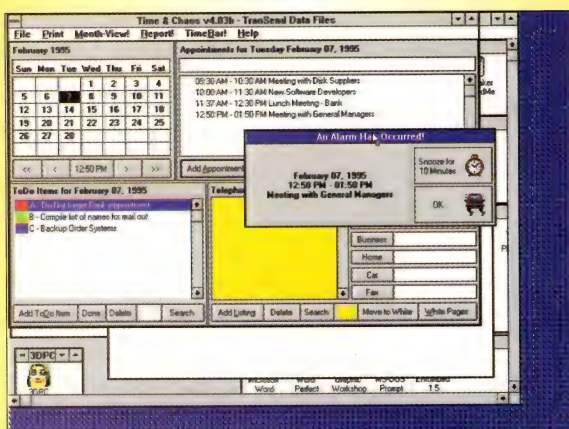
Order Code: 9450 Total Disks: 4

 PC File has a graphical user interface and you can organize, retrieve and manipulate information with buttons, scroll bars, pull-down menus and dialog boxes. Analyse data with relational retrieve, relational posting, search/query, duplicate record check and global update. Print mailing labels, mail merge letters, custom reports, charts & graphs. Bar code printer support, macros, full mouse support, spell checker, multiple views, data validation. One of the best databases around. Requires Hard Disc.

## TIME & CHAOS

Order Code: 5320 Total Disks: 1


 A personal organiser for windows 3.0 or later. For those who like to stay in the windows environment this personal organiser gives you a Telephone Book (white and yellow pages), a To Do List, an Appointments Book and a Calendar. Notes may be added to your telephone and appointments listings or your to do items. Time & Chaos has an auto-dial facility with the telephone book if you have a comms port set up. Last but not least, if you spend a lot of time in the windows environment the alert facility is priceless as it will alert you of any appointments as they become due. Requires Hard Disc.

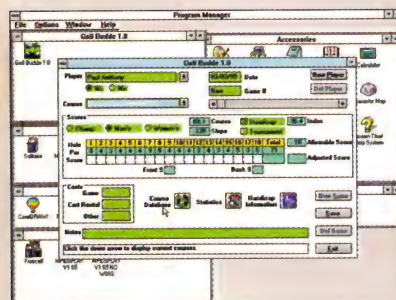


Code 5320, TIME & CHAOS

## GOLF BUDDIE

Order Code: 19450 Total Disks: 1

 This excellent database for Windows 3.1 allows multiple golfers to keep a track of their scores, dates played, courses played, money spent on games and equipment plus miscellaneous notes. Very handy for any hard core golfers out there. Requires Hard Disc & VGA.




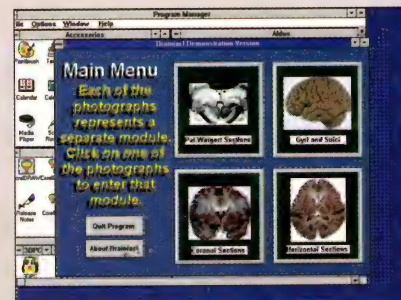
Code: 19450, GOLF BUDDIE

## EDUCATION

### BRAINIAC

Order Code: 19360 Total Disks: 2

 Brainiac is a digital Neuroanatomy Atlas, or in simple terms an Atlas of the Brain. This Demo version allows you to read some of the information and view images of the Brain. The full version includes 27 Pat-Weigert Stained sections, 11 Coronal sections, 7 Horizontal sections and 7 Brain surface images (gyri & sulci). Excellent program for any would be Neurologists with Windows 3.1 or above. Requires Hard Disc & VGA.



Code: 19360, BRAINIAC

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# of shareware

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## MATHS RESCUE

**Order Code: 9860 Total Disks: 1**



Aimed at 4 to 10 year olds this educational game is fun and sure to keep the attention of any young student. Guide your young friend around the various worlds and rescue numbers in the correct order, solve more difficult calculations and get bonus points. From the famous Apogee team in the USA, the quality of graphics, sound and subject matter is second to none. Requires Hard Disc & EGA.

## WORD RESCUE

**Order Code: 3000 Total Disks: 1**



The mean ol' Guzzles can't read and they don't want any one else to be able to read so they have stolen all the words out of the books. You must get them all back, but don't worry your friend Benny Bookworm will help by sliming the Guzzles and revealing the hidden key for you. Apogee have made an entry into the educational market with this first high class educational game. The graphics are excellent and the documentation and playability are as high as any of the Apogee arcade type games. It is a game for 4-40 year olds with various difficulty levels that can be set by the parent or teacher. The idea is to join the words from the books with the pictures, although even children who can't read are able to call up a word list so they can join the words and pictures by association. Requires Hard Disc & EGA.

## WIN MONEY

**Order Code: 19480 Total Disks: 1**



Money for Windows 3.1 is an excellent Home Accounts package. It displays the entries in a bank statement format making it simple to add/edit transactions. It contains an option for multiple accounts and a number of very handy functions including reconciliations, Auto Entries, Direct Debits and a Number of Reports which allow you to see where your money is going. Requires Hard Disc & VGA.

## LEISURE & GAMES

### BLASTERIDS 3D

**Order Code: 19400 Total Disks: 1**



Blast your way through belts of asteroids in full 3D. All asteroids must be destroyed before advancing to the next level and to make things harder alien spacecraft periodically appear to have a hearty go at destroying you. Pick-ups are available on further levels but you will need them because the asteroids come thicker and faster. Requires Hard Disc & VGA.



Code: 19400, BLASTERIDS 3D

## DEPTH DWELLERS

**Order Code: 19350 Total Disks: 3**



This new intense, 3D virtual reality game begins in the mines of Ri. After discovering the demonic rituals used by the Ri it becomes your quest to rescue the slave hostages and destroy the Ri race. You must use your skills and senses to run, jump, crawl, duck and kill your way to complete your objective. You need a 386 with 4 Meg to start your quest. Requires Hard Disc & VGA.

## GOTCHA

**Order Code: 19270 Total Disks: 1**



You'll need fast reactions for this game. The idea is to draw boxes in the playing area whilst the meanies are randomly bouncing off the walls. You need to fill 50 percent of the playing area with complete boxes to advance on to the next level and more meanies. This was a popular game years ago and quite addictive. Requires Hard Disc & VGA.

## HIGHWAY HUNTER

**Order Code: 19250 Total Disks: 2**



A fast, frantic and furious arcade classic, remember SPY vs SPY. Guide your advanced assault vehicle, The Master, through the roads of carnage. This excellent game incorporates 256 colour, parallax scrolling graphics, HUGE Boss tanks and HOT! Power-ups to make Highway Hunter one of the best shoot-em-ups on the PC.



Code: 19250, HIGHWAY HUNTER

## PATRIOT COMMAND

**Order Code: 19460 Total Disks: 1**



Patriot Command is a very good remake of the old missile command game. You control the city defence system and it is your task to destroy any threat to your city. Hundreds of missiles and enemy aircraft swooping down on the key parts of the city, well, I'd call that a bit of a threat. Watch your back with this one because it's fast paced and you'll need your wits. Requires Hard Disc & VGA.

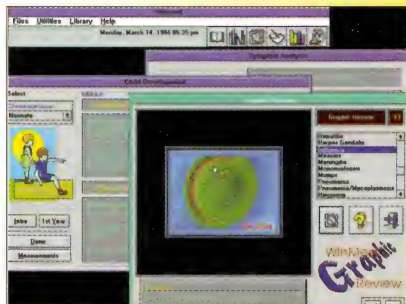
## HOBBIES AND DOMESTIC

### WINMED

**Order Code: 16900 Total Disks: 4**



WinMed is described as an interactive medical resource for the family and home. It is intended for the development of informed individual competence in medical decision taking in the home environment. Well I don't know about all that, all I know is this is one program I intend to register myself. I found it invaluable. There are sections on Symptom analysis, Infectious diseases, Childhood development, Genetics, Nutrition and Obesity. The Nutrition and Obesity sections were of particular interest as I have just started a health kick and the charts and graphs they contain were extremely informative. The symptom analysis is great for deciding if you need to see a doctor or not. All in all a program worth a look. Minimum 386 4MEG Ram & Windows 3.1 or above. Requires Hard Disc & VGA.



Code 16900, WINMED

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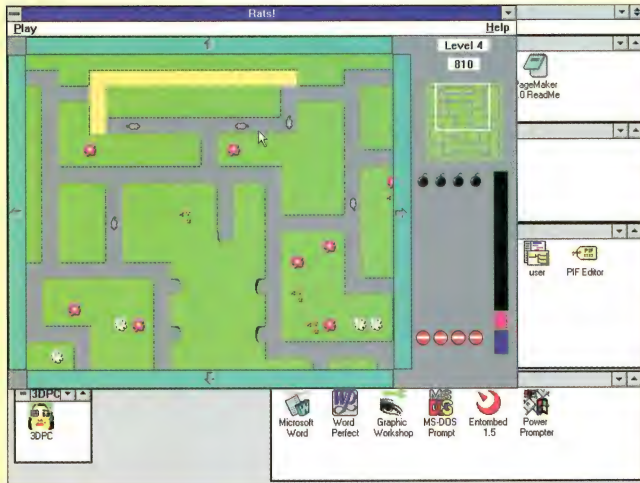
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## RATS

Order Code: 19340 Total Disks: 1



Rats is a simple game of Extermination, for use with Windows 3.1 or above. The idea is to search the garden, using a birds eye view, for any rats which you must then dispose of. You must be quick because they breed like rabbits, so to speak, but as luck would have it you have an arsenal of bombs, chemicals, smoke clouds and other aids to help you complete your job. Requires Hard Disc & VGA.



Code 19370, X-QUEST

## REVENGE OF THE MUTANT CAMELS

Order Code: 19470 Total Disks: 1



Nice graphics, what story-line? Guide your Camel? along the scrolling scenery shooting blue stars from its head? at anything that moves and don't forget to pick up the bonuses to get better firepower. Not bad just to pass 5 minutes of boredom or if you need a good laugh. Requires Hard Disc & VGA.

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## X-QUEST

Order Code: 19370 Total Disks: 1



Guide your craft around the screen avoiding mines, nasties and their weapons. You need to collect all the crystals from the space sector before the gate opens to the next level. Each new level brings more deadlier nasties and mines which make maneuvering very difficult. Easy I hear you say, well not quite the direction of your craft is navigated by the mouse only which means one wrong flick of the wrist and you go smashing in to a wall. This game would definitely be a bonus to your collection and is not to be missed. Requires Hard Disc & VGA.



Code 19370, X-QUEST

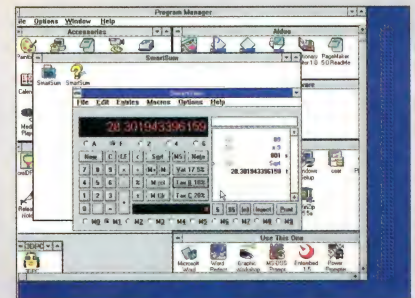
## SMART SUM

Order Code: 19390 Total Disks: 1



SmartSum is an advanced calculator for Windows 3.1 or above. Along with the normal functions of a calculator it has audible feedback,

calculations can be saved, entries can be changed or deleted, a tally roll can be printed, there are 10 memory entries, buttons for TAX and VAT (user-definable) and macros can be created and stored. It has many more features than we can list but if you do more than simple calculations this will certainly be a bonus for you. Requires Hard Disc & VGA.



Code: 19390, SMART SUM

## UTILITIES

### B-EDIT

Order Code: 19420 Total Disks: 1



B-EDIT is a Hexadecimal editor for altering Binary files. It is simple to use and allows you to edit in either Hexadecimal or ASCII with a full screen display. Requires Hard Disc.

### DRAW AND DROP PRINTING

Order Code: 19300 Total Disks: 1



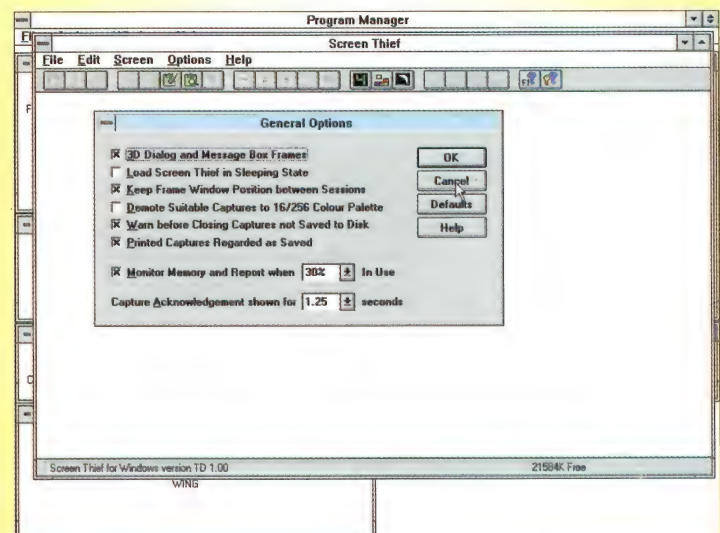
DDP is an excellent little utility for printing files within Windows. If you are in the file manager and you are looking at the directory of a new program, one of the first things you want to do is read the README.TXT file. All

## SCREEN THIEF FOR WINDOWS

Order Code: 19440 Total Disks: 1



Yes our favourite screen grabber, Screen Thief, now has its own Windows version. It includes all the excellent features of the DOS version plus 8 user definable capture configurations, Capture from a desktop, active window, active application or defined area and send to disk, printer, clipboard or MDI window. The ultimate in screen capture. Req: A 386 with Windows 3.1 or above. Requires Hard Disc & VGA.



Code 19440, SCREEN THIEF FOR WINDOWS

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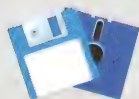
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you do is click and hold the mouse on the file-name then drag it across and drop it on the DDP icon. Hey presto! It will print and you can then browse through the instructions at your leisure. DDP contains a full setup for your printer including adding Headers and Footers to the printed pages. Will work with any Windows supported printer. Requires Hard Disc & VGA.

## DATABASE

### MOD PLAY PRO

**Order Code: 15470 Total Disks: 1**



Mod Play Pro lets you play Amiga SoundTracker/ NoiseTracker and ProTracker modules on any PC regardless of whether you

have a sound card installed, although it makes full use of one if you have it. The Amiga MOD format - a file comprising up to 31 digitized instrument samples and a four-channel music track - is now the industry standard. Mod Play Pro is written entirely in assembly language so it plays even on a slow 286 processor, which is not always the case with other examples. Another nice feature is that you can load up Mod Play Pro then run another program with the music still blasting away in the

## MUSIC MODULES

**Order Code: 11460 Total Disks: 4**



This is a collection of MOD (Music modules) for use with WOW II and any PC MOD composer such as Whacker Tracker. They have all been

composed by very talented computer based

musicians using excellent samples. The nature of the tunes ranges from rock and roll to a theme dedicated to the first men on the moon. This material will again show you just what your PC and sound card combination are capable of. Our collection of modules is a pleasure to listen to so be sure to get it with WOW II to play them back. Requires Hard Disc.

## VISUAL AUDIO

**Order Code: 19280 Total Disks: 1**



Visual Audio is a CD player with a difference, it has an excellent

graphic display, just like your Hi-fi on the shelf. It shares the same features as any Hi-fi with track selection, repeat and shuffle play, pause, skip. There are two graphical analysers, Spectrum and Peak, which add more realism to the player. You can also drop to DOS and listen to music will you complete other tasks. Optional input and mixing is included for a microphone. Requires Hard Disc & VGA.



Code 19280, VISUAL AUDIO

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# Ma

EVERYONE has at some point or other, been to see a film and come out thinking *I could have made a better job of that.*

With the advent of low cost camcorders, cheap video grabbers and the increasing power of the PC, the time has come for you to turn scriptwriter, cameraman and leading actor all in one. What better place to show your wares than the digital cinema the Windows 3.1 desktop.

In this article we will illustrate how to make those features, but also show that the applications of digital direction go much further than you'd imagine. Are you a club secretary for example?

What better way than to engage on a membership drive than to film a 10 to 15 second advert, digitise it, stick it on a floppy and send it to people with PCs? Check out this month's cover CD where we include an example film of the imaginary Mac's Pool, set in deepest Cheshire.

It's easy to film a 15-second short of a photographic society, rambler's club, golf range or whatever, and remember, all PCs with Windows 3.1 can play video clips!

What we'll be showing on the technical side is the equipment needed to go digital and how to film and digitise everything from 10-second quickies to 15-minute films.

Then we'll offer loads of ideas for topics, script and filming tips, and how and where to distribute the end result. And all with the minimum of expense.

If it turns into a serious interest you'll also be pleased to know that we have contact names and addresses for props, agencies and funding authorities too.

So gather up your best lines, round up those friends, turn on the PC and do it all digitally.



## Fancy yourself as a Quentin Tarrantino? Mark Ulyatt and Andrew Shaw explain how to turn celluloid dreams into digital reality

# making movies!

**B**EFORE starting, you need to assemble the requisite equipment and that means camera and grabber as a basic minimum. But what kind of camcorder do you need? To the uninitiated the choice between VHS-C and 8mm makes little sense, so here are my thoughts on the matter.

VHS-C is the same format as the standard video recorder, but in a compact case – thus the C tag. The advantage of VHS-C is that with an adaptor tape you can play those camcorder tapes on a VCR and into the TV. Great you'd think, but not so when compared to 8mm tape which was developed from the old cinecamera standard.

The bad news is that 8mm tapes cannot be played directly on a VCR. The good news is that most camcorders come with bits of cable which let you connect the output of the camcorder – either composite video and/or SVHS – directly to the TV anyway.

The real advantage of 8mm tape is that it is both cheaper than VHS-C and there's more of it, so that a 8mm 60 minute tape will cost less than a VHS-C 45 minute one.

Okay, easy enough so far, but this is where SVHS-C and Hi8 come into the picture. These are both high resolution versions of the formats mentioned, and by literally doubling the horizontal resolution from 200 to 400 pixels, achieve near-broadcast quality. Also, Hi8 is marginally better quality than SVHS-C, but only a trained eye would spot the difference.

Needless to say, extra quality means extra cash. A standard camcorder will typically cost £400 to £800, while a hi-res one will be £700 to £1,100. If you can afford a hi-res camcorder, by all means get one. If you can't, don't worry, a standard one will be fine.

If you don't already have a camcorder, can't afford to buy one – and many good electrical stores offer interest-free repayments – ask around. Most people know someone with a bit of kit – see if you can borrow it or get them in on the action as a cameraman.

In this day and age of all-in-one video

cards, MPEG boards, live TV in a window malarkey, it's good to know that you only need a video grabber. Nothing else.

If you fancy one of those SPEA 4-in-1 jobs, go ahead and treat yourself. For the purposes of this article we're going to be using the Creative Labs Video Spigot.

Now the Spigot isn't the newest piece of hardware around, it isn't even the best, but it's good, it works and it can also be bought amazingly cheap if you shop around. Even better, we are giving away three as prizes in a competition this month! So the faithful Spigot it is, especially since it comes with the full set of Video for Windows software, which is what we'll be using.

### Lights and extras

If your bank balance has been unduly depleted by now, call it a day at getting video tapes and see if other people want to cough up some cash. On the other hand, maybe you already had that camcorder and you've still got lolly to spend. In that case get some lights.

Cheap lights for camcorder use are available and there are some remarkably good quality ones too. If you intend to film in the great outdoors, there isn't much call for them, but interior filming is a different matter since the picture invariably turns out yellow.

A tripod is a real necessity, unless you deliberately want to film on the move. Take the two examples on this month's CD – Mac's Pool and Favourite Places 1: Castleton which was my effort. Neither used a tripod, so I'm told. The Castleton film didn't really need one, whereas the pool one would have benefited.

When filming outdoors there are two other requirements. The first is the use of microphones – and I'd recommend this whether inside or out because the camcorder will pick up the sound of its tape going round and record that as well as what it should be recording – and the second is an umbrella.

Yes, the good old British weather can cause havoc with the best – and worst –

planned production. Run the Castleton film and you'll see what I mean. The weather was fine right up to shooting the last section of the film, at which point the heavens opened.

Sticking out your hand to try and stop the rain falling on the lens is a last resort, so don't do what I did – take an umbrella.

On the audio side there's something else to consider – does the sound track really need to be recorded on-site? The answer's yes with people stood in front of the camcorder – dubbing voices is very hard to do on simple editing equipment and the results will look terrible.

However, the Castleton film's audio track was recorded later because on the day itself it was very windy. Doing it later gives the opportunity to have as many attempts at the soundtrack until you are happy, and with some decent Wave editors that come most sound cards you can merge music and add various effects.





## MAKING MOVIES!

# On with the show

SO enough theory, it's time to see digital direction in action. It's the making of Favourite Places 1: Castleton, which I produced for the benefit of myself, friends and the general public. And to illustrate this article of course.

After my step-by-step guide, Andrew Shaw offers ideas for alternative digital clips and takes you through the production process for longer, scripted and acted short films.

Remember, it doesn't matter how long it is, the following steps are the always the same to turn a dream with nowhere to show, into a digital dazzler that you can send to all and sundry and upload to the Internet for world-wide fame.

## 1 Film it

I HAD the idea of filming my favourite places around the countryside, turning them into digital video clips and distributing to friends and admirers. So, the first thing to do in any digital production is to go and film it.

I'd decided on shooting roughly four locations around Castleton, each with a five or six second clip, panning across to show just how nice the place is. Bear the target audience in mind, because that affects how long the film is and how you digitise it.

If you are doing a mail out advert, you need to get the whole video on to one HD and that means a practical length of 15 seconds tops.

I didn't really mind going over that limit because it wasn't going to be sent to very many people, but it certainly had to fit on to two HDs. I also intended to upload it to CompuServe, which meant no 500Mb epics thank you very much.

So off I went and shot it on a Hi8 camcorder – I had intended to do the voice over at the scene, but as it was very windy I decided to record it later. All scenes shot, it was time to head home and boot up the PC.

## 2 Hard drive cleanse

IF YOU intend to do any amount of digitising, and are using any window size other than tiny, it pays first of all to run the VidCap element – VidEdit is the other part – of the Video for Windows software. Here I set up a file that the video would be digitised into. The bigger the file the better – depend-

ing on your hard drive of course. If you use more than the storage set aside the software will allocate more, but the file may become fragmented, which will muck up the frame rate when grabbing.

Having set aside a handsome chunk of storage, quit Windows and type Defrag for the Microsoft defragmentation program. This will ensure when you come to grab the video that the storage file on the hard drive will be contiguous.

## 3 Sound sense

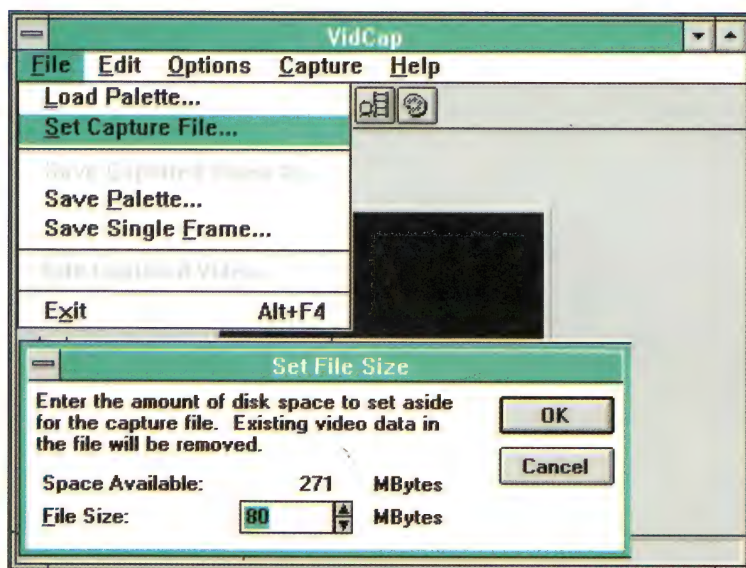
ASSUMING there's some sound on the video tape that you want – there wasn't on mine – you need to get set up for the quality.

Stereo is great, but it will double the memory overhead, as will going higher than the base minimum sampling rate of 11kHz. The Castleton sound added 200k to the file size.

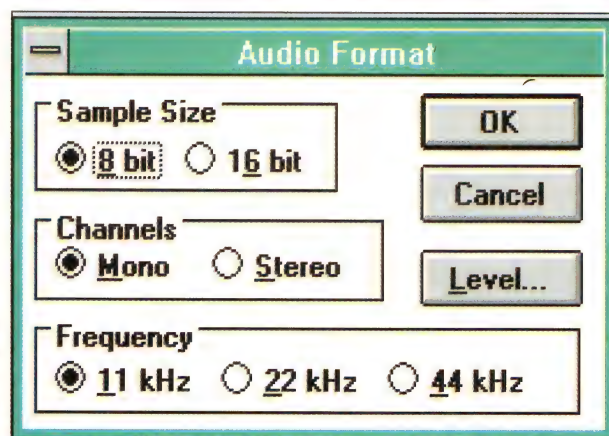
Also you need to remember that the sound output from the camcorder goes to the sound card's line in – it doesn't go through the Spigot. That being so, if there isn't sound when you capture the video check the mixer utility that comes with all cards and make sure the sound input level isn't set to zero – it often is as a default.

## 4 Video source

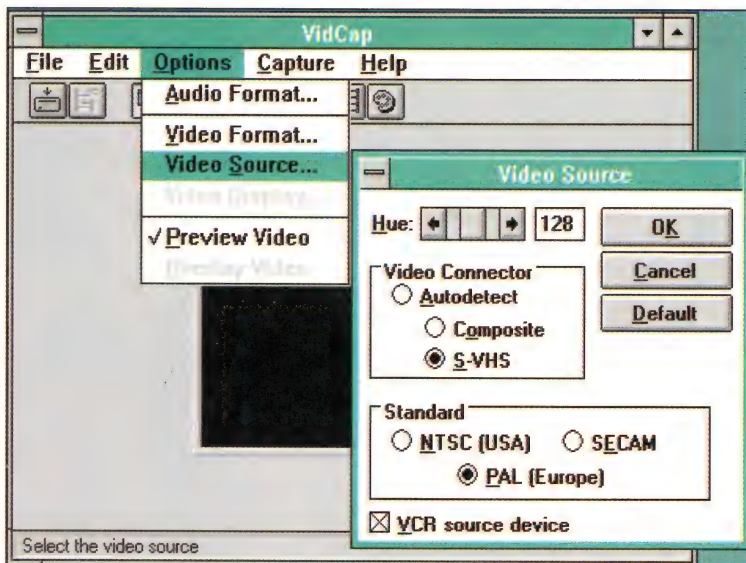
THE camcorder will undoubtedly have a composite video output, and hopefully an SVHS output as well, even if it's a Hi8 machine. Whichever output it does have, select Video Source from the menu and tell the grabber what to expect.



Setting aside a large amount of storage for the digitised file



No need for marvellous quality on this front – mono sound is fine



Setting the source format of the video input to the grabber





# INTERIOR DESIGNER

● Finally, view your plans from four different 3D perspectives – so you can see exactly what your design would look like in real life!

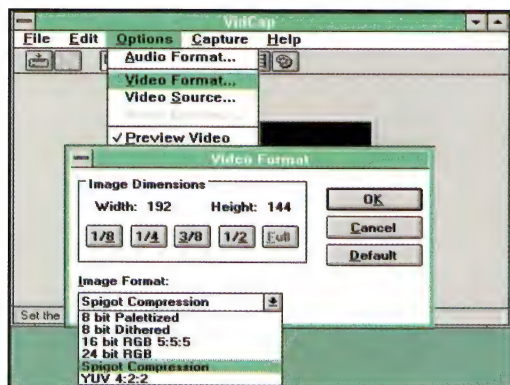
## Guides you on the most effective room schemes



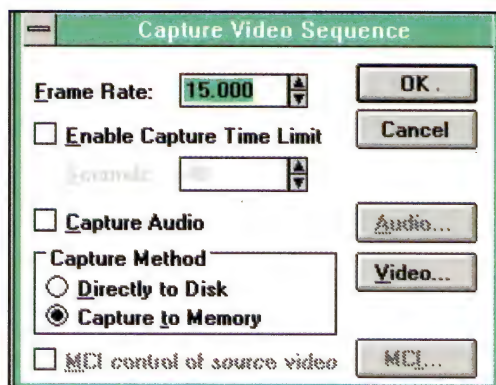
## PCH0495



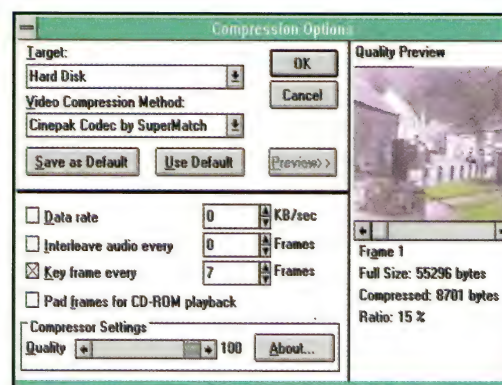
## MAKING MOVIES!



Setting the window size to grab to and the amount of colour in each frame



Setting the all important frame rate and grabbing options



Compress away. No need to sacrifice quality for space on this project

### 5 Size and colour

ONE of the two big subjects in the digital route – the other is compression. Your movie frame rate, window size and the amount of colour in them is dependent on the performance of your PC. Setting the frame rate is taken care of under the next heading, so let's concentrate on what you can reasonably expect the PC to do.

For a start you need to understand what kind of bus system the Spigot is plugged into. The standard ISA 16-bit bus is a bit of a plodder when it comes to video. The Spigot card will slot into that or into the more common VESA Local Bus slots.

Local Bus provides direct access to the system components without any time wasting, which is what happens in a standard PC. Local Bus is therefore faster and will let you grab either more frames per second or more colours.

PCI is a different kettle of fish entirely and provides super-fast video performance with its 64-bit design. Unfortunately, the Spigot is not a PCI card – though you can get a PCI version of the SPEA Showtime which I would heartily recommend.

Using a PCI video grabber on a Pentium will guarantee amazing results, but using it in a standard 16-bit slot in a Pentium won't really push the performance through the roof.

Back to the Spigot then. What can you expect? For a start work around the window size of a quarter screen. This is big enough to see what's going on in the main, and yet not so big you need monster power to grab to it, or colours and frame rate have to be sacrificed to get it.

That said, I firstly tried to grab the entirety of the video to a quarter screen at 15fps with 24-bit colour, straight to the hard drive. It didn't work. At all.

This was disappointing, but not unexpected considering that the Spigot was plugged into a standard ISA slot, not a Local Bus slot – it does make a difference.

Okay, determined to grab something, I set the colour depth to 8-bit (256 colours) with a one eighth size screen at 15fps. Great – it grabbed the whole video without dropping any frames.

That video is on the CD – filename CASTLE2.AVI – for you to have a look at. It only takes up 1.5Mb which is rather good for a 30-second file. However, I wasn't happy with this because the picture is so small, and if you run it at double size the low amount of colour really shows up the pixellated feel to it.

So I set the colour depth to 16-bit (65k colours), which takes up twice as much memory, but is obviously less than 24-bit, True Colour (16.7 million colours).

It still dropped too many frames – a result of 9 fps in fact out of the supposed 15fps, but there's a way to fiddle this which I'll illustrate in the next section. So, for now set the window size and the amount of colour.

### 6 Video capture

If you now go to the Capture menu and select video, an options window pops up. This is where the frame rate is specified. Try 15 for now. If you intend to grab audio in this session click on that box as well. If you have trouble getting a decent frame rate consider recording the audio and adding it later as that will help.

To make sure you don't overrun the length of the capture file you may want to activate the time capture limit. If not, you'll have to watch the video in the

camcorder and hit Escape when you've grabbed enough.

Now here comes the sneaky part. You can either grab direct to hard drive or straight into memory. Fast though hard drives are, they are nowhere near as fast as ram chips, and if clips are short enough and don't contain too much information – size and colour – you'll be able to feed them straight into memory, thus propping up the frame rate.

Digitising in short bursts is a good idea unless you have the power that makes it pointless. However, never digitise more than one scene at once because when you come to save the file it is also compressed into the Microsoft Audio Visual Interleave (AVI) file format, and the bigger the video file, the longer it takes.

That 30-second CASTLE2.AVI file took 10 minutes to save. You don't want to keep waiting that long after making every single change unless necessary.

As I mentioned, I fiddled things here a bit. As the Castleton video covers four locations I digitised each in turn. This was fairly rough as there is some overlap on each video file, but that did guarantee not missing anything and they were to be edited down later.

So I switched the grab to memory flag on and managed to get most of the files into memory – the overspill goes on to the hard drive – with the result that the frame rate rose to a more acceptable 11.5 fps. When you see the video this is quite adequate.

I will now refer you back to the CD where we've stored all four separate clips, before editing them together. Check out CASTL3A.AVI, CASTLE3B.AVI, CASTL3C.AVI and CASTL3D.AVI, which are the four sections – and notice the overlaps.

However, assuming that you are ready to roll, click on OK and the software will prepare itself for grabbing.

When the notice that it is ready comes up, start the video tape rolling then press Enter to start grabbing, and Escape to stop if you didn't set the time limit.

### 7 Compress and save

ONCE you've got the video clip it's time to save it. Now if you are grabbing little chunks, as I did on this exercise, each will have to be saved before attempting to grab the next. If you grabbed everything in one go, which is how the Mac's Pool video was dealt with, you need to save it now before messing about on the editing side.

Now you can either do a straight uncompressed save, which will take up another 23Mb in the case of the Castleton video, and is around three times quicker than saving in compressed format. I save them as compressed files simply because they don't flood the hard drive when you've got a few of the blighters on the go.

Compressing the file into AVI is the other major topic for the digital director, and quite how you do it depends on who the video file is for, as I outlined earlier on.

Go into VidEdit either by clicking on its icon on the VidCap toolbar or selecting from the main menu, and VidEdit will then load up with your video file. We'll be doing some editing later, but for now it's time to look at the compression options.

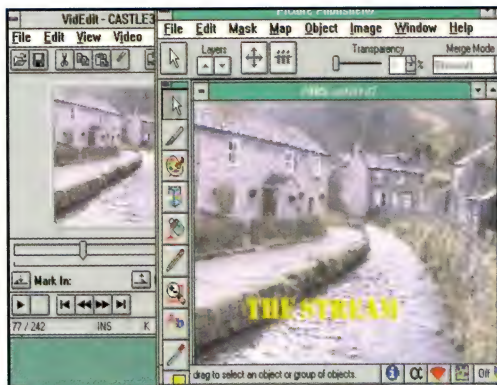
Click on Video Compression Method to get a list of the codecs available. Click on the Details gadget and the Preview gadget it turns into to produce the window seen in the screenshot that accompanies this section.

Most compressor codecs will offer a range of compression versus quality. Slide the toolbar towards more com-

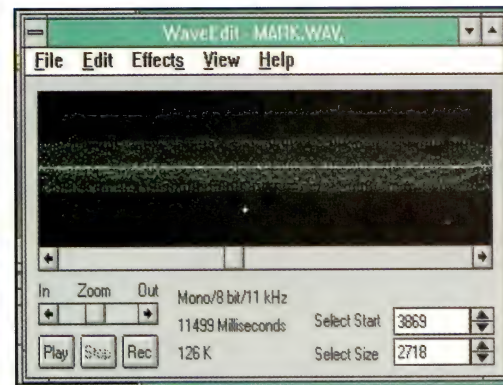




Adding the main title, with one cut to the image processor and one paste back



Adding the sub-titled sections by multiple pasting the same frame



Editing the Wave file for the voice over track is easy

pression and see the image degrade accordingly. On the Castleton videos there was no need to use anything other than the Cinepak Codec at 100 per cent quality, and even without losing any quality it reduced the storage overhead from 55k per frame to about 8.7k per frame.

That made each of the four video sections weigh in at around 560k to 580k. This meant my full video wasn't going to be in excess of 2.8Mb, which is what I was aiming for.

It's all down to how good you need the video to look against how much space is available on which to distribute it.

I didn't record the sound on site, so in the saving process there was no sound to interleave. Later, when I'd added the soundtrack and was saving again, I interleaved the audio every frame – which is what most circumstances call for.

## 8 Editing and pruning

THE next step was to use the mark in and mark out tools of VidEdit to trim away the overlap and the extra pieces of video footage that I didn't want to use. You can also alter the frame rate, colour depth and window size, though it has to be said this is not the time to do them.

I'd advise you to go back to VidCap and grab the clips again but with the new specification, rather than tried to re-jig a clip.

Promoting a clip from 8-bit to 24-bit colour will give the depth but not the extra colours. You'll have to find a palette to add to the video clip.

That, in fact, is one of the nicer options in VidEdit – the ability to load and enforce palettes of your choice. It means you can give films a classy black

and white or a sepia palette, and if you're having trouble creating the desired palette, consider running a lead from the VCR or TV when it's playing an old film, to the grabber, and stealing the palette from there as they can be individually saved.

Back to the Castleton video, and using the Insert option, all four pieces were added to each other. I then resaved using a different filename, before pressing on, pruning out the unwanted bits before saving again.

## 9 Titling

NO self-respecting promo video would be complete without a title but here VidEdit falls down. So, cut the first frame to the clipboard and paste as a new image into your favourite image processor package – there are plenty of shareware Windows packages that will do the job.

Then add on the text with the title and any details required.

Finally, cut back to the clipboard and paste back into the video file using the Paste from Clipboard option. For an initial title page, one frame is all that's needed to have the text on because it can be read before the video is run.

However, as you'll notice if you run the CASTL3NS.AVI file, each of the other sections of the video has its own subtitle.

Now to get this on screen long enough to read you either cut and paste 12 frames manually, making sure the text appears in exactly the same spot on every one, or buy some smartypants software that'll do it – or do what I did.

Instead of just pasting the key frame once as in the main title page, I pasted it 12 or 13 times consecutively so that the video appears to stop, giving time to read the subtitle.

## 10 Sound at last

AH yes, the missing component was that soundtrack. The advantage of having the video already finished is that you can time what appears where and try to produce a soundtrack that correlates to what's on the screen. This can be tricky, but if you get it wrong have another go.

The voice over for the Castleton video refers to each of the sections and was recorded using my SB16 card at that lovely sampling rate of 11KHz in mono.

From whatever utility you use, you can add spooky effects, clean up the hiss or chop off the bits you don't want.

## 11 Insert and finish

NOW all that needs to be done is to insert the audio track, using the Insert

option from the VidEdit menu, and then, having tested the file, it can be saved and compressed.

When doing this remember to activate the interleave audio flag, otherwise the video will remain strangely quiet.

Once saved, the AVI file can be distributed freely to anyone with a Windows 3.1 PC because they all have Media Player sat on the desktop to view your amazing digital direction.

Play the CASTL3NS.AVI file for the finished video – and yes, the sound has been clipped off the end.

Article deadline pressures curtailed further time in the editing room, but once this is finished I'll be back to make changes, add some more details, perhaps put a music backing track to it all. Who knows?

However, the files are all there on the CD for you to play with, so please load them up and hopefully be inspired to make your own digital delights.

Now it's on to find out what Andrew Shaw has to offer the more ambitious digigrapher.



Adding the finished soundtrack by using the Insert option



MAKING MOVIES!

# Video nation

**Andy Shaw offers a range of digital ideas and explains everything you need to know about getting bigger productions off the ground**

**T**HE best use for video on disk has got to be self promotion. Anyone with a PC and a copy of Windows can see what you've done – and let's face it, if you get a mailshot that consists of an attractively packaged disk with the promise of video on it rather than another boring old piece of *straight into the bin* paper, you're probably more likely to sit up and take notice.

Something similar to our Mac's Pool video could attract new members and, of course, revenue should the waters be owned by an angling club.

By putting the few seconds of video you can see on the MegaCD-Rom on to a few floppies and distributing them around local businesses, all of which have PCs, with some simple instructions on how to view the video, you should drum up a bit of interest.

Another handy use is to show people new additions to the family, half a minute to show how the children are growing – that kind of thing. Slip it in with a letter to relatives and friends who live abroad or you don't get to see enough, and they'll be thrilled at being kept in touch in this manner.

You don't even need to worry about international broadcasting standards when sending abroad because there is obviously no problem once you have transferred the pictures to the Video for Windows .AVI standard.

What can be achieved with video on a PC is really only limited by your imagination. With the right equipment and software you can perform groovy special effects, edit videos far more cost effectively than buying a fully-blown edit controller and with the proper use of all the software could even produce something using a variety of mediums like video char-

acters keyed over rendered 3-D sets and locations.

The more equipment and software you can lay hands on, the more power you will have behind the creations. But there is still a great deal to be done with the bare minimum. You never know, get into it now and a whole new world of opportunities could eventually come knocking on your door.

So you want to be a great filmmaker? The idea of being the next David Lynch, Quentin Tarantino or

activity, so get out there and give it a try.

The first thing you need to do before ploughing into any production is plan, plan and plan some more. There is nothing that can't go wrong in any project of this nature, so make sure you've got everything sorted out beforehand.

First up, if you're planning anything including speech you'll want a script. You don't have to stick to it religiously, but it saves a lot of time to have some idea beforehand of

unsure on how to do it.

If you're making something with various locations in different places of the film, shoot them all at the same time. The beauty of doing this kind of thing on a PC is that with the right software you can edit scenes together fairly easily, so saving a lot of time moving backwards and forwards.

The shot list should also give some idea about how long individual shoots will take. A short film really shouldn't take any longer than a day to shoot and if you're working outdoors always leave plenty of time for the unexpected – Britain's weather has never been particularly reliable.

Make sure that if you're using other people as actors or to help man the equipment that you have their undivided time. There's no point in getting help from someone if the production runs over and they then decide they can't spare you the extra time as they may delay the production or even have to be written out completely.

Once you're all planned you can start to think about locations. There are certain considerations to be taken into account. The most important is permission. If you're shooting on private or some public property, you may need to ask first.

Some places may ask for a nominal fee for some types of filming, particularly airports and the like which may have to go out of their way to accommodate you and your crew. Parking considerations are also worth thinking about unless you can travel very light or really don't mind lugging equipment around.

It's also necessary to check out background noise. If you're filming a short period drama, there's no point choosing a location a few yards away

## "The biggest problem for most people is how to get started"



Ridley Scott is a particularly appetising prospect, even for people who've never dabbled in the wonderful world of video and film before. The biggest problem for most people is how to get started, how to get that big break and where to go to for help.

You can use a PC to help in all manner of ways, whether it's simply using floppy disks as a simple format for small scale distribution, or even creating fully blown multimedia spectacles. The key to it all is cre-


what is going to be said.

Break down everything into a shot list, preferably with a story-board as a sub reference. The shot list is basically a resume of the script in terms of the camera and will allow you to break the script up easily when it comes to shooting. It can then be seen at a glance what shots need to be done at specific locations which aids organisation.

There was a short guide to making a story-board in the *Get Creative* feature of last issue's *PC Home* if you're







from the M1. This may sound obvious, but even the slightest noises can crop up in your final epic.

It's well worth making the extra effort to find somewhere that's quiet and private enough to stop you being interrupted by any inquisitive passers-by.

That gets us down to the serious business of a budget. No matter what you do, some expenses are going to be incurred, even if it's just buying the tapes you'll need and a cuppa for your crew after they've finished a day's work.

On a bigger production there are more costs you need to think about in advance.

First up is transport. Even if you have access to enough cars to lug people and equipment around in, there's still petrol to think about.

Other people may also expect remuneration in exchange for co-operation – make sure you find this out at the asking permission stage then there won't be any unpleasant surprises.

Props, costumes and equipment such as lights – or indeed a camcorder if you don't already own one – may also need to be hired or bought if you can't find anyone who is going to lend you stuff.

Get quotes off a variety of companies and check that the price includes insurance.

Lastly comes the contingency budget. Basically this should be about a tenth of your budget again, in cash wallowing around in your pocket just in case you need it.

This doesn't mean you *have* to spend it, but should you run out of tapes or need a new bulb for a light, there is at least a pool of available





## MAKING MOVIES!

cash from which you can easily draw for emergencies. Film on a Sunday when all the shops are closed at your own peril.

### There are limits

A FEW handy hints and tips to digital video are worth bearing in mind when you're making a production. Long films can take up an enormous amount of disk space, so if you can keep it short do so.

In the same way that novelists will drum up recognition quickly by writing short stories, most film makers start off by creating something short and exciting which people will be willing to sit through.

The best way to get people to see your stuff – essential when advertising a club or some such – is to put your work on to a floppy disk. High

density disks are obviously essential for this, as you should be able to fit about 15 seconds on to one. Use two disks and you've got a good 30 seconds of space that ought to be enough to present your message.

There are also tricks in directing a

them, as long as you keep them slow and steady. A tripod is a good idea if you want to get any kind of decent shot.

Video for Windows and indeed most PC video formats work by updating what has changed in the

talking, keep the angle tight on the head and shoulders, especially if they're the type of person who gesticulates with their hands, as this means the video should be able to keep up with the changes and run as smoothly as possible. The more movement there is in the video window, the more frames the computer will have to leave out in order to make the film run properly.

In terms of your computer, the main constraint is probably going to be hard drive space. Video is notoriously disk hungry, so a bit of clipping and pruning of your directory structure may be in order.

If you only have a small hard drive you may as well forget about that feature film and stick to the shorts until you can get a chance of upgrading.

## "Most film makers start off by creating something short and exciting"

nice piece of work that's going to make your video look better on the PC screen. Most importantly, wide angles and pans don't work as well as tight angles and close-ups because they end up too jerky. This doesn't necessarily mean you shouldn't use

picture. The close-up is the obvious choice, as whatever it is you're filming shouldn't change too much from frame to frame. If you do a more wide angled shot, there is more in the picture that will move around so it will jerk. If you're filming someone

## Sources and contacts

THE local video club may have resources like lights available for loan – look in the local paper or try at the library for addresses. There are a number of video magazines from which you can glean a wealth of information.

Local amateur dramatics companies will have access to decent props and costumes that they might lend/hire to the budding video producer. You could always offer your services to video a rehearsal or the final thing so that the actors can see how they look on stage in return for any help they can give.

Mainstream theatres may also be willing to hire out bits and pieces from their collection of costumes and props. These kinds of contacts can prove very fruitful if you keep them on your side and try not to take too many liberties.

If you're really stuck for props, there is a list of professional companies in an excellent book from The Spotlight called *Contacts* which is just that, a book full of names, addresses and phone numbers of loads of companies who provide

professional services. It costs £6.50 (plus £1 postage and packing) and is available from the address listed below.

Local libraries can be an invaluable source of information, both in terms of local clubs and societies which may be able to help you out, but also for books on the subject of making videos.

If you really get into the idea of doing this kind of thing professionally, you will need to get some help and advice from the big boys like Channel 4. It's always best to have a good idea of what you want to do before you talk to anyone.

Samples of work, show-reels, scripts and a synopsis might be enough to get you in to chat to somebody about a commission. If you're serious, have put some time into planning a project and are enthusiastic enough to be able to sell the idea to other people, there is a potential way in through this route with the backing of this renowned financier of independent productions.

If you think you could have the ideas to make the next

Shallow Grave then they could well give you a break.

Another institution that has a particular interest in digital video as a medium in its own right is the Independent Film Workshop which recently had a seminar on the whole caboodle.

They keep close contact with people who are doing this kind of thing and are more than willing to be contacted by hopefuls with something to add to the medium.

Both organisations should be able to help you if you are really serious and are looking for some help in producing your first blockbuster.

If you know nothing about video production and want to find out more, going back to school could be a viable option. Most community colleges will run evening classes in simple camcorder style video production, and if you get on with this you could possibly go and study it properly at university.

This will give you the opportunity get practical experience of film and television equipment and

production, and put a show-reel (a video version of an artist's portfolio) together.

UCAS, the Universities and Colleges Admission Service, produces an annual guide to all the available courses and how to apply to them called *University and College Entrance*.

The BBC run their own internal training schemes which are also highly competitive, but you do get on the job training which is invaluable. Write to them for more information on this particular subject.

If you think you're good enough to dive straight in, you could talk to the experts. Alan Briggs is a digital film producer with his own production company Creative Outlet. He works specifically in the area of digital video, with a specific interest in multimedia and interactive movies.

He's more than happy to talk to people who want to get into this end of the business and look at samples, particularly those who are visually minded and work with both video and computer effects like 3-D Studio type rendering packages.

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Television Centre  
Wood Lane  
London W12 7RJ  
Tel: 0181-743 8000

Channel 4  
Television  
124 Horseferry Road  
London SW1P 2TX  
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Alan Briggs  
Creative Outlet  
66 Huxley Road  
Leyton  
London E10 5QU

The Independent Film  
Workshop  
81 Berwick Street  
London W1V 3PF  
Tel: 0171-437 3991

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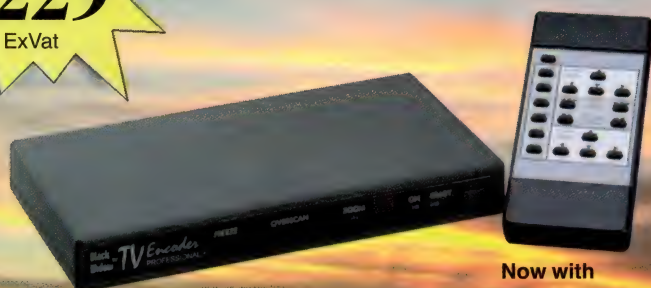
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# DEAD!

## – but not forgotten

**With the assistance of a range of emulation programs, Will Sargent turns back the clock to the 8-bit glory days of the '80s**

**A** LONG time ago, in a galaxy not too far away, a home computing enthusiast could choose between a number of equally popular systems, each supported well, by a large number of small but groovy software developers.

Now, the PC is fast becoming the sole ruler of the roost. Sinclair, Acorn, Commodore and Fred Harris have left us only with fond memories of ram-packs, colour-clash and 5MHz processors.

If you weren't introduced to the wonderful world of computing until recent times, then pity you. Those who were watching, witnessed the most exciting progression in microchip technology throughout the 1980s.

Different machines came and went like passing tourists, as hardware developers promised better graphics resolution, bigger colour palettes, capacious floppy disk drives and real, sampled sounds.

A new game would cost all of, ooh, £5.95. Of course, you could buy 50 pints, a fish-supper for

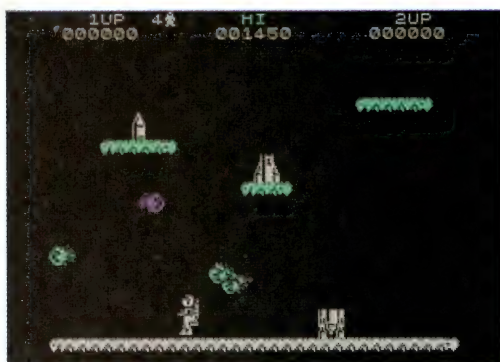
four and have change for the party to be chauffeured home to their doorsteps for the price of a game back then, so we still complained. Software houses were often no larger than one or two people working from a back-bedroom, often learning the system they were developing for, as they typed.

Because you were playing games at home and not pumping coins into a box to finish the final level, these computers were the best fix for financially-challenged young gaming addicts.

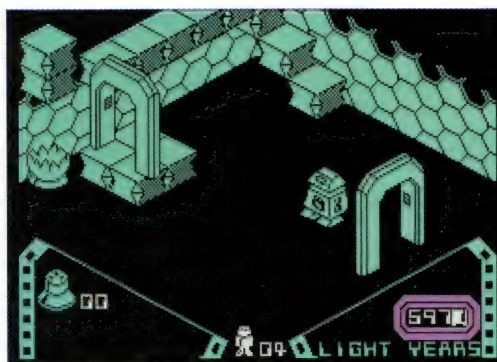
Defender, Donkey Kong, Galaga, Gorf – anyone out there ever understand what that machine was trying to say?— Pooyan and Pengo were the arcade cabinets responsible for improving hand-to-eye co-ordination across the world through the '80s.

The little 8-bit machines tried with all their might to offer the same experience on the home TV, with licensed arcade tie-ins and other blindingly original developments, only available in the home.





Probably the most addictive computer game ever. We love you, Jet Pack



Ultimate Play The Game produced some of the most innovative software of the '80s



Matthew Smith was the child genius responsible for the platformer of all platformers, Manic Miner

## Z80 – Sinclair Spectrum emulator

I BET loads of *PC Home* readers have a box stuffed in the attic with a little book-sized, plastic tablet wrapped in a power supply, tape and TV leads. And in the same box, a collection of dusty cassettes, with names like QuickSilver and Imagine adorning their cracked covers.

The Sinclair Spectrum, although physically unimpressive, was a monster of a machine. It was affordable and therefore adopted *en masse*. Anybody with any sense, in the then ban-tanweight software industry, supported it.

Definitely the most memorable machine in the short history of home computing, Mr. Sinclair's little invention opened a gateway to gaming, Basic programming and general computer experimentation for any household with £175 – later, £150 – to spare.

Admittedly, it's easier to tickle a trout than it was to type effectively on the infamous rubbery keyboard of Sir Clive's brainchild. He obviously decided to concentrate not on superfluous aesthetics. Instead, by fitting a Z80-engine and just enough memory to hold 20 infuriating levels of Manic Miner, he offered a system that ensured your dough was being spent mostly on available power of that time.

Numerous Spectrum emulators are

### Z80 Emulator on the CD



available for the PC, of which the Z80 emulator is probably the most popular. Primarily, because it can run any old 16, 48 or 128k machine-code classic you throw at it. In fact, if your machine has an AdLib compatible sound card, it can even reproduce the desperate tinklings of the 128k model.

You may now be thinking: "How on earth do I get my old Speccy games on to my hard drive?" Well, fear not, the designers of Z80 have developed two ingenious methods to transfer the beeps and burps of an audio Spectrum cassette.

The full version of the Z80 software arrives with lots of documentation, covering transference of data to and from different formats. It even deals with file structures from other emulators, which, if you can get hold of a disk full of games converted for the PC, will save much time.

The Z80 Emulator can read Spectrum tapes by either connecting up your old cassette recorder through the line-in port of a SoundBlaster compatible sound card, or by using a specially made lead. This connects to the printer port of a PC and for a small charge is

available from the same people who distribute the software.

When a game loads from tape, it is fed into a .VOC file and then converted to a format which the emulator can understand. It is a slow process, converting a library of cassettes into Z80 snapshots but it only needs to be done once. Soon you will have a collection, taking up all of 200 to 300k on your hard drive.

Jack up the emulator and you will experience a whole new concept in 8-bit gaming. If you can think back to the days when you had enough time to jog around the block and then cook tea, leaving 30k of game to screech slowly along the EAR lead and into your Speccy, you are about to be pleasantly surprised at how little time a 90s IDE hard drive takes to accomplish the same task.

Loading a snapshot into the emulator now takes about two nanoseconds – it's like having a cartridge-based Spectrum. Just tap through the list of files in the game directory, hit Enter over your choice and before your finger leaves the key, the title screen of Jet Set Willy will be sitting waiting, behind the file menu.

Turbo-load and multi-load games can both be loaded into Z80 snapshot files. A multi-load file is sent across in



Welcome to 1982 – through Windows!

separate chunks, from the original tape and then glued together as one datafile. There is a good quality guide accompanying the program which explains how to deal with the more tricky file types.

Using a PC to emulate a Spectrum has its advantages. You can increase or decrease the pace of any game by tweaking the emulation speed. Usually this makes a game unplayable but it was a giggle watching the main sprite from *Wheelie* zip around at manic speeds.

Anything you could do with a Spectrum, you can do all over again today with Z80. If you dare enter the treacherous world of Basic programming – our editor might be able to supply you with a couple of his *guaranteed, no bugs* listings – it's chocks away because the documentation includes a list of key combinations to find those commands only available by playing finger-twister on the original keyboard from hell.

## Eeeeh, I remember when...

### Lance: Spectrum +3



MY first machine was a 3.5k Commodore Vic-20 which I inherited in 1984 from an aunt. Three years later my parents reluctantly splashed out on a Spectrum 128 +3 after I'd lectured them on the importance of keeping abreast of emerging technologies. As well as giving me access to hundreds of games, the +3 enjoyed the luxury of a 170k 3in disk drive. The Spacky eventually got swapped for an electric guitar in a moment of passing euphoria, much to my subsequent regret. I was introduced to PCs in 1990 when I left school and took my first job as a YTS PC engineer after realising that international rock stardom was not on. Really wish I'd learned to play that guitar.

### Justine: Spectrum 48k



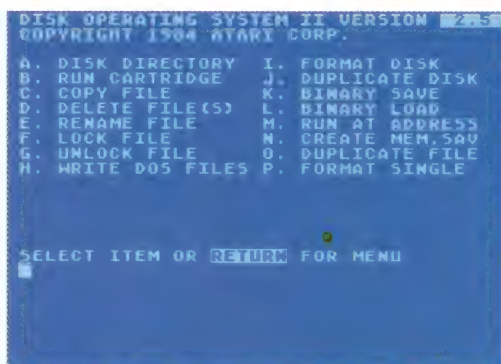
THE first, and only, computer I ever owned was a Spectrum 48k. After emptying my post office account and saving up for six months or so, I finally had the £120 I needed.

Never having much of an interest in the more technical side of programming I bought the Spectrum primarily for playing games on.

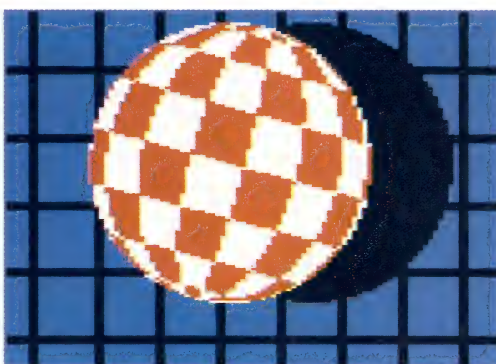
Most of my friends at the time either had a Spectrum or a Commodore 64 and there was an on-going argument as to which was the best.

Obviously there was no doubt that the Spectrum was far superior with games such as Donkey Kong and Manic Miner.





The disk operating system wasn't quite as easy to understand as File Manager



Anyone who could shell out £800 for an Atari 800 could watch this demo for free



Everyone should be familiar with the famous Atari Fuji logo

## Atari – PCXformer 800/800XL

PCXformer is on the cover CD



TECHNICALLY superior to any other home machine of the time, Atari's groundbreaking home system demanded a bank loan nearing £800, a lot of money in the '80s.

On the PC, the PC Xformer Atari 800 and 800XL emulator runs only under Dos. Again, it's distributed as shareware, so the only bill you have to foot is for the online charge or any long-distance mailing.

A cable is available to move your 8-bit classics from A to B. Applets with the main emulation will take care of loading and saving of these files, saving Atari machine code and Basic software as 90, 130 and 180k disk images.

This cable wires up your real Atari 800 to the PC in a similar manner to the other emulators, detail on which is available in the .DOC file on our cover-disc.

Pressing F12 will switch the emulator from the newer 800XL mode to standard 800 and you can perform a *soft* reset by tapping F10.

This emulator is the most user hostile of the three. To get anything to load, on booting the program, you must specify a virtual disk – or two –

from where the program can draw disk image files.

Loading machine code or Basic programs is also more of a chew than with the others.

In the wonderful world of Atari's disk operating system, machine code programs are labelled up as .OBJ or .COM files and Basic programs will carry the suffix .BAS.

Considering the power of the Atari architecture, this program does a commendable job of persuading a PC to emulate player missile graphics – sprites – horizontal and vertical fine-scrolling with a 256-colour palette.

To achieve full-speed emulation, a machine no weaker than 386DX-33 is required. If your PC is a throbbing P90, or even P60, you can use the slow mode to steady the display.

Roughly, a DX-33 will manage to keep an old 8-bit game running at its proper speed and a DX2-66 can push it out at four times that.

If you have the reactions of a housefly, you can always try and play a game, accelerated to eight times its original speed. A feature only available if you have a P90.



Because the Atari architecture included hardware sprites and hardware scrolling, Moving images this size was a breeze

## VIVA PAC-MAN!

BOY, was I jealous when I discovered some friends had been bought an Atari VCS 2600. What with Pac-man, Pitfall and the mesmerising *Adventure* cartridges, this first games console of any stature was the hottest toy a young lad of 10 could hope for.

Unfortunately, the nearest I got to holding the stiff joystick of the VCS was when we were infrequently visited by these spoilt brats we once called *friends*.

Now it's time to turn the table. Every single Activision game that was once available for this now gaming antiquity of a decade and a half is available for the PC. And because I am a computing journo, I can now play them all.

For £29.99 you get four volumes of Activision classics, which include most of the important games from this influential period of gaming. Pitfall, River Raid, Grand Prix and Chopper Command are the games that formed genres we still adhere to today. Kids and seasoned gamers alike will revel in the nostalgia this Windows-based collection holds. The pack should be out in the shops now, so take a blast from the past, prepare yourself for some extra-chunky graphics and call Activision – contact number is in the final summary.

### Pete: Commodore 64



I'll have to admit my extreme sadness and my age to some extent and own up to spending my Christmas money on a ZX81, initially. Let's just say it didn't do much for me. Perhaps I should have invested in a ram pack to expand the machine's basic 1k of memory.

I remember battling the evil tyrant Dracula – who was in fact an ASCII quotation mark – and trying to rid him from the earth with a rapid assault comma. And there was 3-D Monster Maze which in 1k was very clever.

Moving swiftly on I lived the life of a Spectrum 48k addict in 1983 for a short while. Finally when the colour clash became too much for me to bare I had to look elsewhere for my digital kicks and found my dream machine in the form of a Commodore 64. What more could you ask for? – a synth chip, a breeze block design and trailer loads of classic Jeff Minter games. 'Nuff said!

### Duncan: BBC B



TECHNICALLY my first computer was an Atari VCS console when I lashed out 50 odd quid on a Basic programming cartridge in 1982. It had all of 60 bytes available. Oh dear.

After that disappointment it was a 1k ZX-81. No sound, black and white chunky graphics and a great home made Canyon Run game which kept me going until I got the 16k wobbly ram pack.

Favourite computer was a BBC B with twin disk drives and a modem which was used for coding, writing and games. I bought it all after a software firm sold a Spectrum game I'd written in Boots and Menzies.

A life of programming, playing Elite solidly for three months and running a back bedroom software house was ruined when a famous weekly computer magazine gave me a job. I've never looked back – much!





The classic C64 front end – blue screen and the worst Basic ever



Not donkey rides but a multi-player trading and warring exercise



Dropzone: One man's struggle against the corporate state

## C64S



Two versions of C64S on the CD. The unrestricted tape version of C64S plus games on the HD

AH, the Commodore 64. How pleased I was, while perusing a university FTP address in Seattle, to find an emulator for the king of home computers.

The 64 introduced many people to the altogether more rewarding world of hardware sprites, hardware scrolling and three-channel, quality audio.

The son of the VIC-20 also introduced me to the art of boxing – most frequently with owners of BBC Micros who just couldn't accept the fact that their machine was probably best-suited to connecting up little *Turtles* and then moving them around the floor with interesting software.

Okay, so my attitude with owners of the Beeb was, at it's best, a tad churlish. But hell, I was only, er, 14.

I'm sorry, I bet you thought you'd seen the last of the *My machine's better than yours* banter on the letter's pages of computer rags throughout the last decade. I think that was half the fun really, having a selection of machines to fight it out. Then again, it could just be because I enjoy arguing: "Let the battle of the emulators commence."

The 64 emulator for the PC has been around for about a year and, like Z80, is available first for free, as shareware. You can then upgrade to the full ver-

sion for a few dollars more – online and street addresses and prices are listed at the end of this feature.

Where its Spectrum counterpart will run on anything from a 286, upwards, the C64S emulation program needs a 386DX-40 or above to run any of your ageing C64 disks and cassettes at the same speed of the originals.

If you want to hear a perfect reproduction of the sweet, sweet voice of the SID chip – the 64's orchestra-like audio chip – a sound card is recommended. Any SoundBlaster compatible will do but the chap who wrote the program recommends running with a Gravis Ultrasound for best results. Don't worry if you haven't got a GUS, tunes came through pretty well on my SB-clone.

Before the emulator can run, a configuration program must be set up. This sets sound card options, port settings for the tape and 1541 drive – again, as with the Z80 emulator you can connect any old peripheral to your PC. And again, you can obtain the special leads from the same place as the software. Running the program from either Windows or Dos – although it's dead slow in Windows without a little assistance from a Pentium chip – will bring

forth from the heavens, the magical blue Commodore 64 power-up screen and flashing cursor.

Tapping through the F-keys, you can access tape, disk and tape image files. This last file-format is where the program stores full programs, once they have been fed into your PC.

If you have an Internet account, you shouldn't have to bother with any converting of your old tape and disk collection because, lucky you, almost every decent 64 game ever written is available from a couple of online locations. If not, you would be best advised to get hold of the special adapters from the program developers and start transferring files.

Tape files are handled as tape images. F10 brings up a tape options screen, whereby you can open a tape directory screen and then import individual files to this directory. To execute a program, you can load it directly from the 64 main screen by entering the equivalent of Shift Run/Stop or by tapping Enter over the file name in the tape image directory.

A DX2-66 will run any 64 stuff up to 450 per cent faster. Therefore, all of those who cried over the snail-paced frame update on *Elite* and other 3-D favourites can now wallow in the splendour of many more frames a second but with the same amiable 16-colour, chunky graphics and Rob Hubbard's nostalgia-inducing audio performances. **PCW**

## Availability

### Z80

The registration fee (for full version) is £20 or £15 for the version with or without DISCIPLE/Plus D emulation respectively. BG Services, 64 Roebuck Road, Chessington, Surrey KT9 1JX

Telephone enquiries on 0181-287 4180, fax 0181-391 0744, or from abroad: +44 181 287 4180 and +44 181 391 0744 respectively.

BG Services can also supply ready built tape interfaces for £11.50.

Interesting On-line addresses :

FTP ftp.nvg.unit.no  
/pub/Spectrum  
FTP wuarchive.wustl.edu/  
systems/sinclair  
FTP ftp.ijs.si/pub/xx  
GOPHER gopher.nvg.unit.no  
WWW www.nvg.unit.no  
http://www.nvg.unit.no/  
Sinclair/Spectrum

### C64S

For cheque or money order orders send to: Seattle Lab, Inc.

Phone: 206.828.9001

Fax: 206.828.9011

E-mail: lab@seattle.wa.com

CompuServe: 71202,560

FTP: as.seattlelab.com

(204.29.31.1)

Check out the 8-bit 64 classics at FTP - watson.mbb.sfv.ca

### Atari 8-bit Xformer

#### V.3.00

Micro Discount (Atari XL/XE mail order) – phone: 0121-353 5730 fax: 0121-352 1669 They will also supply the SIO2PC cable (for transfer of data from Atari to PC).

### Atari 2600

Activision (Janine Johnson) on 0181-742 9400 or your nearest game store

### Atari ST Emulator

Micro Discount (Atari XL/XE mail order) – phone: 0121-353 5730 fax: 0121-352 1669

## Andy: BBC B



THE first machine I ever owned was a Commodore VIC-20 but frankly after the first few days of owning it, I was somewhat disappointed with the total 3.5k memory. The machine that really tickled my pickle was the BBC Model B my parents were generous enough to buy me when I was a little older.

This really started me off in computing – more than a simple games machine, it had practical applications as well. Of course, it was a joy to own the first machine that David Braben's *Elite* came out on, and *Revs* by Geoff Crammond who went on to do Microprose's superb *F1GP* was great too.

Best of all was the ability to have a machine compatible with those at school, into which you could plug a *proper* dot matrix printer and type out your homework for those guaranteed A+ grades for music projects on how great the oboe was. It helped me get where I am today.

## Will: Dragon 32



LIKE Lance and Andy, my brother and I convinced our parents to shell out for a computer on the understanding that it was to be used to boost our flagging schoolmarks. Mum would often walk into the room and ask how a two-player game on Microdeal's *The King* – the best Donkey Kong rip-off, ever – was helping our homework.

Tom, my brother would then retort: "Mum, when you were at school they obviously didn't make you jump over huge barrels and navigate flaming pots of oil in P.E. This really is a most essential aspect of our extra-curriculum activity".

Following these most desperate excuses, we would both ceremoniously receive a slap to the back of the head and then find the tape drive hidden away for days on end.

But thanks anyway mum and dad, the Dragon started it all off and look at me now. But then again ...



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*...it shows a clean pair of heels to other cards, such as Creative Labs' Video Blaster. PC Answers Nov 94.*

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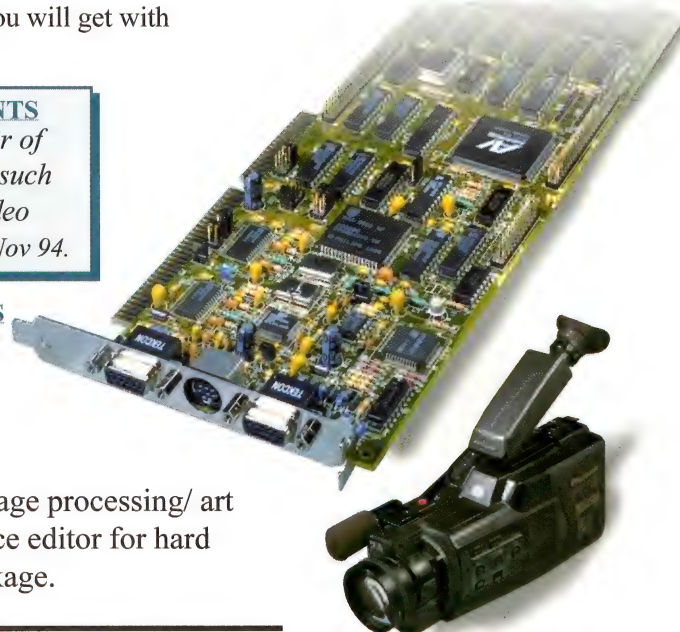
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# Wired up!

**It's the Pete Hawley guide to the myriad online services, from CompuServe to the Internet and back**

FOR years the UK PC owning fraternity has suffered immeasurably as far as getting online is concerned. The main problem for the average home user is the phone bill – many of you will know exactly what I'm talking about.

There's no doubt you'll have heard that familiar *thud* on the doorstep every quarter as the infamous envelope emblazoned with a trumpeting messenger plops through your letter box.

If recent announcements are anything to go by, all this huge telephone bills nonsense could soon come to an end for all online addicts. For example, in the coming year AT&T the American telephone corporation giants, will be making inroads into the UK and they have plans to alter the way we pay for and use our telephone network.

There are already whispers of free local calls being introduced within a year and I'm sure BT have called a few emergency meetings on the matter. On the other hand we have companies like NYNEX who are installing cable nationwide in the UK and no doubt there are a few roads in your county being torn up ready for the new breed of telecommunications networks.

Cable will give us all the chance to get online for the right price at the right speed. In the US experiments are already under way in a number of states to try and implement TV top systems in the house that will accommodate the whole family's needs when it comes to entertainment.

Video on demand, shopping, gaming, network gaming, video phone, the prospect of a future where not having an e-mail address would be the equivalent of not having a house address today, is drawing ever closer.

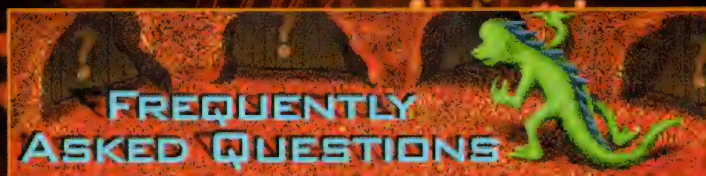
In the UK, online service will completely change the way we live and how we go about our daily lives. The way we shop, the way we communicate, buy and listen to music, the very fabric of our daily lives is about to be completely torn apart. Or so the experts would have us believe.



# Netscape



THE perfect place to start for all newbies to the World Wide Web. The netscape home pages also include a guide to the basics and principles behind the Web and how to find your way around.



THE addresses for the netscape home pages are included within the browser's menus and the click of the mouse will lead you to a number of helpful and informative pages.

Frequently asked questions (or FAQs) are text files and help files you'll find in almost every ftp site on the net. They are exactly what they proclaim to be – a list of frequently asked questions and their related answers.



IF you're looking for something in particular, the Internet search is the perfect place to begin your quest. Listed on this page are a number of search engines, like webcrawler, that search the web looking for the key words you entered.



ONCE you have familiarised yourself with the basics of cruising the WWW and you've hypertexted yourself into a frenzy, check out some of the other places listed in the netscape pages before you venture off on your own.

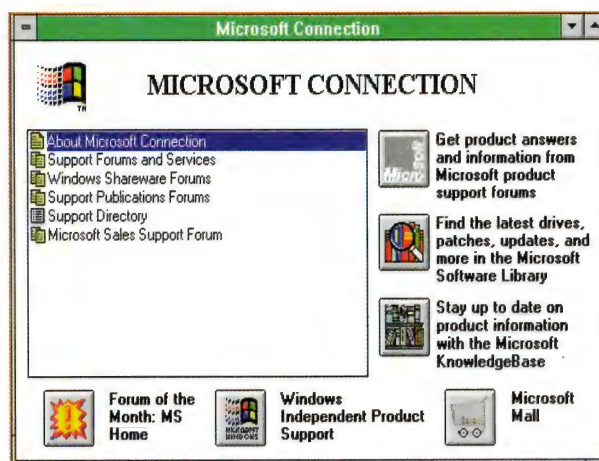
What's new and What's cool are two particular favourites when you're starting out and it's always worth a look to keep yourself up to date with new and bizarre places to point your browser.

## ftp sites

IF you want to get your hands on the latest shareware products, game demos and applications updates here are a few helpful ftp addresses for you to get going.

wuarchive.wustl.edu  
ftp.mcom.com  
ftp.microsoft.com  
ftp.demon.co.uk  
watson.mbb.sfu.ca

Shareware, games, demos  
Netscape version 1.0  
Microsoft  
Demon  
Commodore 64 Emulator and games



Microsoft are just one of the many computer vendors providing online services for the CompuServe user

SO what is the best way to avoid being left behind in the race for an online existence? The answer is to get online now. There's no excuse any more. Modems are an inexpensive commodity, phone charges are reasonable for local calls and access and subscription to the Internet is incredible value for money.

All you need to become an online expert is a little patience, some spare time, about two hundred quid for a decent modem and an account with an Internet supplier. An example of the cost is Demon's Internet charges. Demon are the UK's largest Internet providers, and charge a reasonable £12.50 registration fee and a further £10 a month.

For that you get everything you need: The Dos access software, your individual node name and E-mail address, access to the Demon ftp site to get the latest Windows access software and all the necessary applications you need to organise E-mail, access the gopher server, ftp and organise newsgroups and mailing lists.

There are thousands upon thousands of newsgroups to which you can subscribe to receive information about hobbies, work interests or just access to some of the weirdest places on earth.

Every time you log on to the Internet the software will automatically access the news server and download all the relevant news from the chosen newsgroups. Simply entering the newsgroup name into the Internet software configuration will give access to the information.

But it isn't just E-mail newsgroups and mailing lists that the Internet has to offer. Using the Internet access and the file transfer protocol (ftp), millions of PC files are all available on your desktop.

However, using the Dos-based software supplied with the registration kit can be more than a little confusing and for the first few days you'll really begin

to wonder what all the fuss is about. So the alternative is the Windows TCP/IP connection and the World Wide Web.

If there's one thing guaranteed to put people off using the Internet it's the user front end and its appearance. If you're paying £12 a month plus a joining fee the last thing you want to see is a Unix-based operating system that's about as friendly as a magazine editor who's has just had his butt kicked at Heretic (grrr – Ed).

This way the Internet will look like nothing more than a huge hard drive: Millions of directories, billions of files and plenty of case sensitive nightmares. So the easiest way to relieve those online blues is to get the relevant Windows access software. The Demon Windows software is available free from their very own ftp site. Many of the other Internet providers offer the same service.

The best way to get online if you're new to all this is to access the World Wide Web (WWW). This is an enormous catalogue of Web pages and sites covering just about anything you could possibly imagine. Again the software needed, a web browser, is included in the Windows access software included with the account or it can be downloaded free from the netscape ftp site.

The WWW is by far the most appealing side of the Internet and offers its users the most user-friendly and visually appealing front end. Each Web site has its own address and the sites can, and do, contain every possible subject you can think of. If you've been following my *net.stuff* pages over the last couple of months you'll have seen the kind of places you can visit.

Many of the pages are linked to other parts of the WWW, and indeed the globe, via hypertext links. Each highlighted text area of the web page points the browser in the direction of other relevant sites and pages. Basically you could spend all your time online simply browsing through the WWW linking to





My favourite haunt, the Action games forum: Patches, updates, full shareware, demos and Doom levels!

other pages and then moving on to the next. In the same way as the Internet, a search facility is available for the Web pages so if there is something in particular you are looking for, simply move to the net search page within the Netscape home pages and move to a search engine like the Web crawler.

Type in a number of keywords, click search and the engine will return all listings and addresses it feels are relevant to the words. Simple.

## Opportunities

THE future is exciting for a number of reasons. Online providers in the US have plans to bring their services to the UK around the same time AT&T make their entrance which opens up a whole new spectrum of possibilities and opportunity.

During my recent visit to the US I was very surprised by the amount of coverage the online services receive on the cable channels. Public opinion voting can now be done via E-mail or America online during the numerous debate programs.

ESPN, the sports network, now supports America online and

Prodigy services so viewers can vote for touchdown of the month via their PC or try and order those elusive football tickets.

So the reduction in phone costs, the laying of optical cable and the growing interests from the business sector will pretty much guarantee a stable online future for us all.

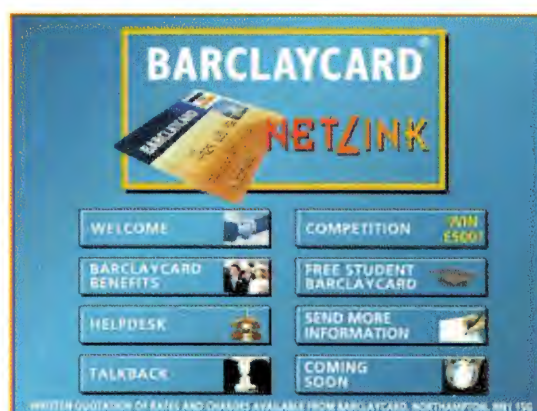
The growth and investment encouraged by the communications corporations will also mean within the next five years or so many of us will be able to

enjoy the benefits of a networked society and the ability to take part in huge network games.

Quake for example which is under development at the moment at id's office in Texas will support an almost infinite number of players over a wide area network.

Something to look forward to methinks.

PC Home's E-mail address is  
pete@hawleyp.demon.co.uk



Visit the Barclaycard home page to read about their plans regarding net banking, or apply for a card online

## Online jargon

<b>PoPs</b>	Points of Presence – local Internet access points
<b>TCP/IP</b>	Transmission Control Protocol/Internet Protocol
<b>URLs</b>	Uniform Resource Locators (Web Pages)
<b>FTP</b>	File Transfer Protocol
<b>Gopher</b>	A server perfect for research. Search the net for those elusive files
<b>Winsock</b>	Windows Internet access software
<b>Telnet</b>	The system used to chat to people over the Internet in real time
<b>CIS</b>	CompuServe Information Service
<b>E-mail</b>	Electronic mail
<b>WWW</b>	World Wide Web
<b>Browser</b>	Windows software used to browse the WWW
<b>Netscape</b>	Web Browser software
<b>Mosaic</b>	Web Browser software

## Internet providers in the UK

### Almac

PoPs: Birmingham, Cambridge, Falkirk, London, Manchester  
Charges: Silver – £45 a year, Gold – £75 a year  
Contact: 01324 666336

### CityScope Internet

PoPs: Birmingham, Bristol, Cambridge, Edinburgh, London, Manchester  
Charges: Varies depending on requirements – £50 + VAT registration and £15 + VAT a month  
Contact: 01223 566950

### Delphi Internet

PoPs: London and over 100 local access points  
Charges: £20 a month for first 20 hrs £1.80 an hour thereafter  
Contact: 0171-757 7080

### Demon Internet

PoPs: Birmingham, Bradford, Durham, Edinburgh, Hull, Isle Of White, Leeds, Liverpool, London, Manchester, Newcastle, Reading, Sheffield, Sunderland, Portsmouth/Southampton  
Charges: £12.50 + VAT registration £10 + VAT a month  
Contact: 0181-349 0063

### Easynet

PoP: London  
Charges: £25 registration £9.90 a month + VAT  
Contact: 0171-209 0990

### EUnet GB

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Contact: 01227 266466

### ExNet Systems

PoPs: London, Edinburgh  
Charges: £7, £9 a month or £300 a year  
Contact: 0181-244 0077

## CompuServe

ONE of the longest standing and most user-friendly online providers is CompuServe. Don't get it confused with the Internet Windows software or WWW – they are completely separate beasts.

CompuServe is an international online service that provides its subscribers with hundreds of user forums and areas of interest that offer news and comment on sports, communications, leisure, travel and world news.

Once you're on to CompuServe the basic services provide you with

all the necessary applications to gain access to the various news services and information areas as well as an E-mail section for composing, sending and receiving mail.

Each user is given an address number and password for the account.

### Local access

There are a number of local access points for CompuServe across the country so phone bills can be kept to a minimum if it is used wisely.

But CompuServe also charge you

for the amount of time you spend online which can prove quite costly if you are not careful. It's all a matter of weighing up the advantages against the cost.

For example here in the office it's an absolute godsend. There are news networks, game publishers forums, game updates and patches and, most important for me, the action games forum.

Basically all the forums work along the same principle. The first time you access one the CompuServe guys just ask you to join by sending

your name. You can then access files within and enter into correspondence with other members sharing the same interests.

Whether you're after software, information, new contacts, trading old software or playing around with the CB radio simulator, CompuServe is guaranteed to offer something no matter what your interests and requirements

If you want to send in any E-mail regarding this or any feature in the magazine PC Home's CompuServe address is 74774,1353. **PC**



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# PENNY PUBLISHERS

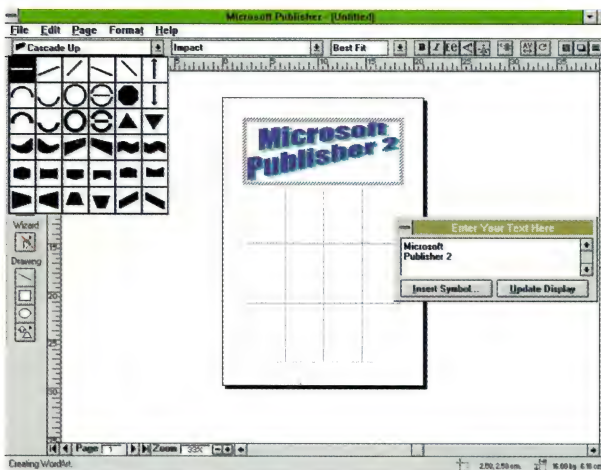
**Andy Shaw picks up six desktop publishing packages priced at under £100 and evaluates which are the best value**

NOT so long ago desktop publishing (DTP) was out of the range of most home users – there was a distinct difference between the top-quality, fully-featured offerings like Aldus Pagemaker and Ventura Publisher and the budget packages which often worked in Dos and were incapable of producing anything that looked like you couldn't have done better with a pair of scissors and a photocopier.

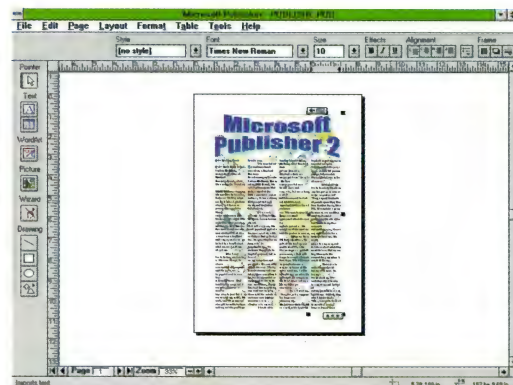
To get anything decent out of a PC you needed a very high-spec machine with a suite of expensive software. And even the Windows software packages came with no

guarantee that you didn't have to have a BTEC in typesetting to understand how to use them. Now that high spec machines (486s) have filtered into the home and there's a guaranteed market for small but well formed DTP packages that can be easily utilised by the layman, the software companies have finally got in on the act to produce some excellent products at even better prices.

I looked at six of the most popular budget DTP packages to see which was the best all rounder for the home in terms of features, ease of use and, of course, price.



MS WordArt is strikingly similar to GST's PowerText although, in my opinion, not quite as good



Simple but interesting effects are very easy to achieve, especially with a Wizard

## MICROSOFT PUBLISHER 2

UNTIL recently, this was basically the DTP package you would think of if somebody mentioned budget. It retails at under £100, is very easy to use and comes bundled with a good proportion of PCs that are currently sold.

Microsoft managed to corner the market in this area basically because new users – those who are probably in the market for a new DTP package they can use at home – automatically think of them.

This is not to say it's a bad package – far from it. Publisher has loads of features and is very easy to learn and use.

The original Wizards included will get you up and running with basic layouts – although some of them do usually need toning down a bit – in no time at all. This is really handy if you aren't design minded and still need to produce some kind of newsletter or flyer.

My biggest gripe with Publisher is that it's very reliant on the toolbar across the top of the screen. Great if you know your way around, but some of the icons aren't particularly clear and there are no little yellow ToolTips showing

what they do. This means you have to go into help or refer to the manual even if you have a vague idea of what you want to do.

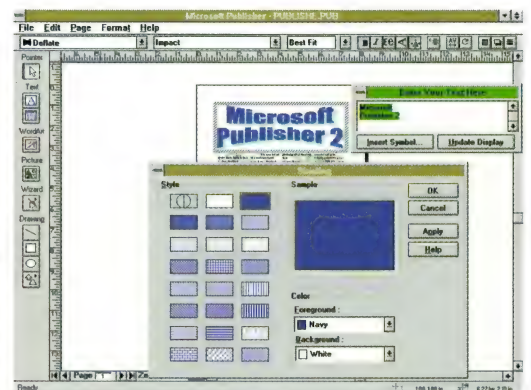
As long as you're prepared to put a bit of time into sitting with the manual when you start you should be okay. Having said that, some of the other packages reviewed in this round-up have an easier learning curve, because more thought has gone into the way you're shown around the software. In terms of the raw beginner, it has lost its *easy to get into* crown to Pressworks 2.

Publisher does come with more features as standard than most of the other packages. Both Pressworks and PagePlus need extra bits to create things like tables – you can buy these at the beginning or update later if needs be.

It does come with a table editor as standard. This may be important if you will be doing this kind of thing. However, it's worth mentioning that even with the special upgrade, Pressworks is still cheaper.

Most of the features work well, but a few things don't work quite as simply as the competition. The WordArt section,

You can rearrange things at any time, no matter what order you've been working in



which allows you to create special text effects for headlines and the like, doesn't let you see what you're doing as you go along. You have to quit out of this section to see what it looks like then return to it once you've decided on the changes. This can draw out things like headline creation to quite long periods as you experiment.

Also the graphics handling is not quite up to scratch. For example, to cut out an image so as to have text flow around an irregular outline, the shape is cut up for you. I would preferred frame handles so that any fine adjustment can be done without having to resort to playing around with raw numbers in a separate window.

It is this slight lack of attention to the little details that drags Publisher down

in comparison to something like Pressworks. Although the two are superficially very similar, Publisher has that bit less in it to smooth the path of both the newcomer and the experienced user.

Until Pressworks 2 arrived, I was quite happy to use this DTP package but now I don't think I'll really look back until the next version comes out.

Product	Microsoft Publisher 2
Price	£85
Supplier	Microsoft
Tel	0734 270001
✓	Fairly easy to use and a popular standard
✗	Not enough attention to finer details

**PCH Verdict** ★★★★★☆☆



## PRESSWORKS 2

THE first thing that you'll notice about Pressworks is how similar to Microsoft Publisher it looks. Although there probably aren't exactly an infinite number of ways in which you can lay out a DTP package that is clear and simple, the screen shots are a good indication of the origins of at least some of GST's influences for the layout.

A lot of the features are also Microsoft inspired – like Publisher, Pressworks has Page Pilots – their equivalent of Wizards, cue cards, Power Text which can be easily translated to Word Art and sackloads of templates.

I came to the conclusion that GST have basically taken everything that is promising out of every budget DTP package you could think of, added that to what they knew already from their own experience of producing Pressworks and 1st Press and came out with something that is far better.

This makes it easy to use, simple for even the part-time novice to get into through the Page Pilots and yet at less than £40, affordable enough for anyone who has enough cash to buy an average PC game.

Everything you do outside of the actual page environment automatically updates as you do it. This means that using things like Power Text, which is basically a way of producing special effects for headlines and the like, happen the minute you click on them – you don't have to hit an Apply button for anything.

This is so handy – the ability to experiment quickly to find the right style for whatever it is you're doing is

invaluable to the novice. Trial and error is the key to producing interesting looking publications and the easier a package makes this, the easier it's going to be to make a piece of work look snazzy.

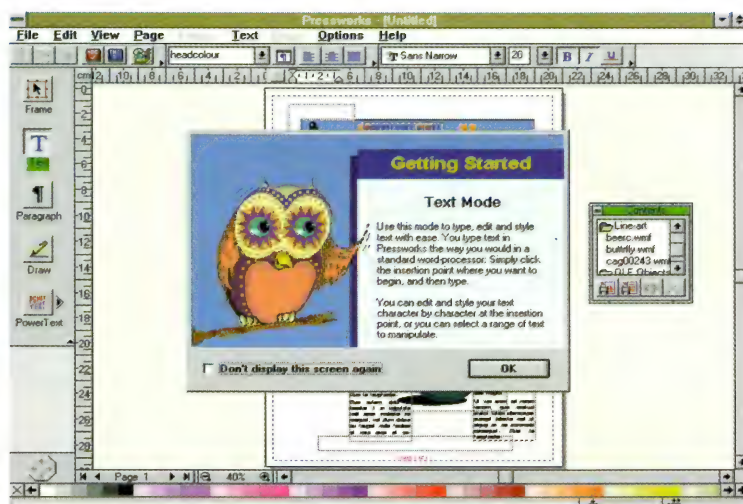
Getting to know the environment is very simple – as with most decent Windows products, if you hold the cursor still over an area for long enough it comes up with a ToolTip – a little yellow post-it type note – stating what it is you're about to press. The context sensitive help is most useful as every time I found the urge for clarification I got it within one or two pages of what I was doing.

All the little things you might want to do in a DTP package seem to be here. Certainly I had an idea about the kind of things I wanted to produce and Pressworks opened up its arms and embraced my desires. There really is nothing more satisfying than playing around with a computer package that encourages experimentation and coddles the new user through those difficult early learning stages.

Cue cards are one area where Pressworks isn't quite up to Publisher. These are displayed in a small window stays open as you work and provides tips on how to do specific, fairly easy tasks like importing a graphic.

In Publisher this stays as the top window, even when you're working on another below it, whereas with Pressworks you have to keep hitting Alt and Tab to get the thing back up. It's a nice idea but one which Microsoft have certainly got to grips with a little more.

If you're working as a home business



The first time you do anything in Pressworks, a window will pop up to give a little direction and guidance

you may be interested in the stationery option. With each copy of Pressworks you will find a sample of attractive stationery provided by a company called NEBS Business Stationery.

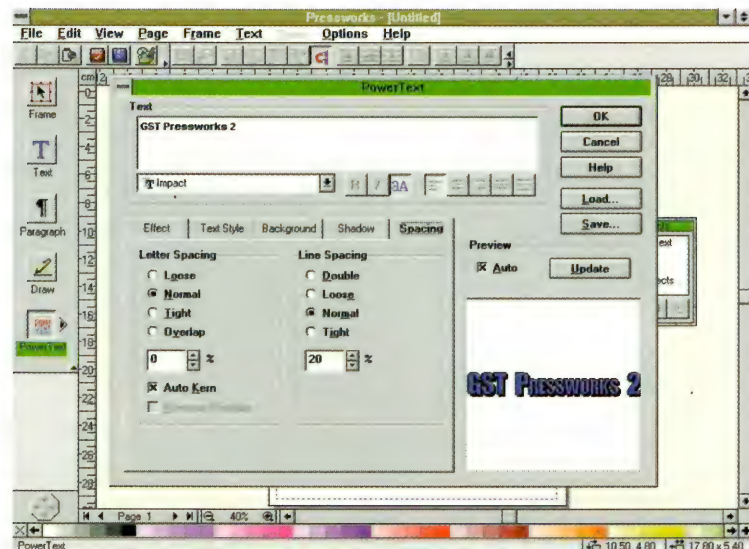
This is basically pre-printed paper on which you can then use a Page Pilot to create really professional looking letters, compliment slips or business cards. For people who have no real volume to get this kind of thing done in its hundreds of units this is an excellent, value-for-money way of producing quality looking effects.

The fact that all the paper styles are pre-programmed into the package means that it's child's play to use the pilots to add things like letter heads, logos and text in exactly the right positions. I can't recommend this package

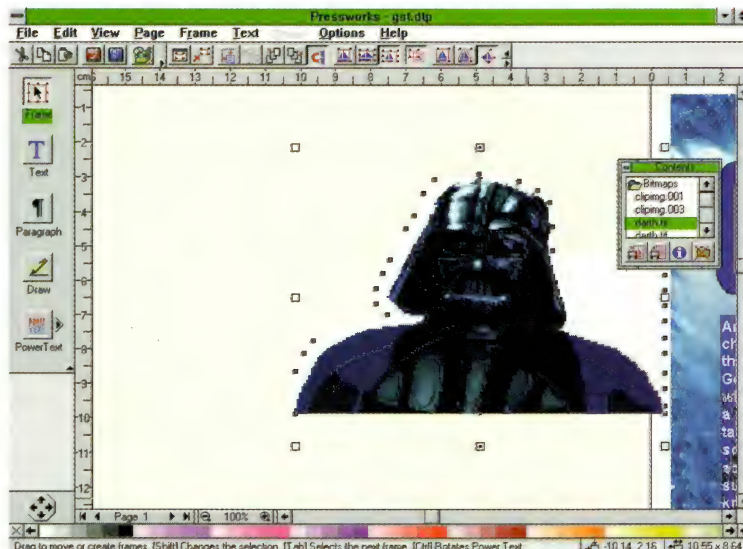
enough – it's better than the competition and comes at a vastly reduced price which you can guarantee the other companies will be compelled to match or lose out badly.

The features it contains are very comprehensive, it's a lovely product to learn to use – as far as any piece of software can be – and the price is right. What more could you ask for?

Product	Pressworks 2
Price	£39.95
Supplier	GST
Tel	0480 496789
✓	Everything, especially price against features
✗	Nothing
PCH Verdict	★★★★★



Pressworks' PowerText is superb, allowing you to do whatever you can think of to headlines



You can do automatic cut outs but it leaves plenty of handles for you to mess with afterwards



## PAGEPLUS 3.0

**S**ERIF'S DTP package has always been the main budget competitor to MS Publisher until now. It can be used on three levels, supposedly catering for different user levels, ranging from a cut-down level for beginners to the fully-fledged *throw anything at it* set-up for the experienced user.

I had big problems with this – the beginner's level didn't have enough features so I had to keep switching to the expert level to do what I wanted with the page. The trouble was that once I was in the experienced section, there

for styles like italics and bold. Frankly I prefer my toolbars to be well sized but not obtrusive, and floating boxes of tools simply don't do anything for me.

Having made these gripes, PagePlus is actually an extremely good package, especially if you've tried your hand at a bit of DTP before and know the basics. This will allow you to move more or less straight into the advanced mode after a bare minimum of fiddling about.

The layout is non-standard when compared to the similarities of both Pressworks and Publisher, so knowing one of these won't necessarily make starting up with PagePlus any easier.

The best part of the package which is lacking from the others is a text and paragraph editor. This makes typing text into documents as easy as using most word-processors, as a window comes up into which you can just type.

Each paragraph is split up with its own style name so that you can easily format the text in different styles – just click on a paragraph to make it body text, some kind of heading or whatever.

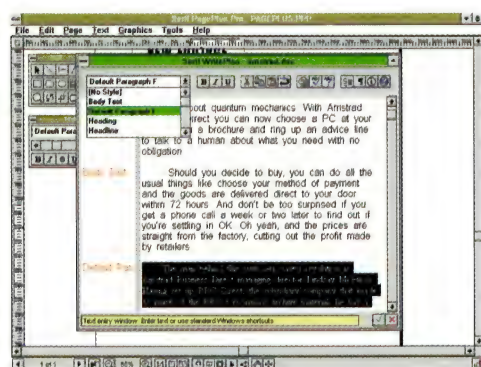
This is superb and if you're producing technical manuals or something that is going to be a lot of text and not much by way of pictures it is worth remembering that PagePlus has the simplest technique for handling it.

If you are happy making very simple documents to start off with, there's a fairly smooth learning curve to this package, though it still isn't as nice as Pressworks.

If you pay more to get all the extra features that are included in the special upgrade it includes DrawPlus, a table creator and an image processor. With these, PagePlus becomes a very powerful package. However, for all round ease of use and value for money it is still beaten by Pressworks.

Product	PagePlus 3.0
Price	£70.44
Supplier	Serif
Tel	0602 421502
✓	Not the best for beginners
✗	Fully featured and a fair price

**PCH Verdict** ★★★★★☆



The text editor can make short work of formatting long paragraphs

was not enough help left to keep me going without having to switch back to beginner to find out what to do. And the intermediate level wasn't helpful enough nor did it have enough features for me to use it for very long.

This was the most annoying thing about the package. The basic assumption that a beginner will be happy churning out very simple stuff is nonsense. This is especially so when other companies are managing to make something that is comparable to the highest level in PagePlus and still make it easy to use.

I also disliked the floating toolbars, although admittedly this is a personal thing. I found myself constantly wasting time moving them out of the way, which may be me just leaving them in the way but I still found it annoying. They also had a habit of disappearing so I constantly had to refer to the menus anyway to stop them from hiding.

In PagePlus they also expand and have multi functions – for example when you're in text mode you have to double click on a button to open up a bank of buttons then hit another button to get to change the font.

If you then want to change the size as well, you have to go through the button rigmarole again and the same applies

## 1ST PRESS

**1**ST Press is a severely cut-down DTP package designed for people who are just getting into the wonderful world of creating their own layouts. This means it's not got as many functions as some of the others but it's still not incredibly easy to learn.

One of the biggest problems is that the only colour options are for line art. If you import anything other than a piece of line art it will come out in the final document as a monochrome interpretation. This is fine if you only have a mono printer and are desperate not to get anything done professionally, but it leaves very little room to do anything else at a later date if you get interested.

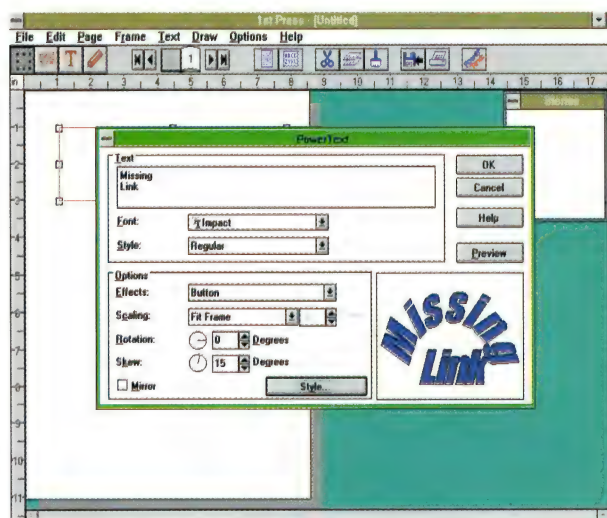
Frankly, for the £30 price tag it's difficult not to recommend that you spend another tenner and go for Pressworks. Even if you don't require some of the latter's finer features, there is at least plenty of room to grow with

the package. After you've laid out a few basic pages, I can guarantee you're going to want to move on and do something a little more complicated.

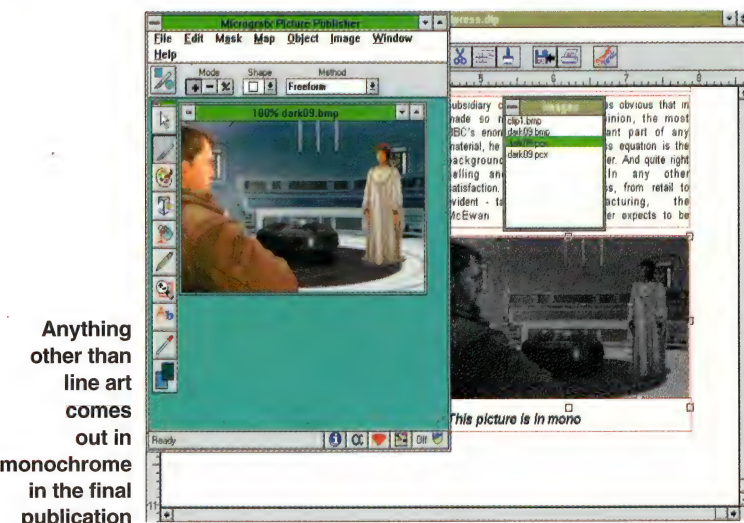
A month ago this would have been a nice cheap alternative for people who didn't want to go over the £50 pound mark into Publisher or PagePlus, but Pressworks 2 from the same company who produce this is too good an option to miss.

Product	1st Press
Price	£29.95
Supplier	GST
Tel	0480 496789
✓	Contains early version of PowerText, handy for headlines
✗	Pictures come out mono and features are quite disabled

**PCH Verdict** ★★☆☆☆☆



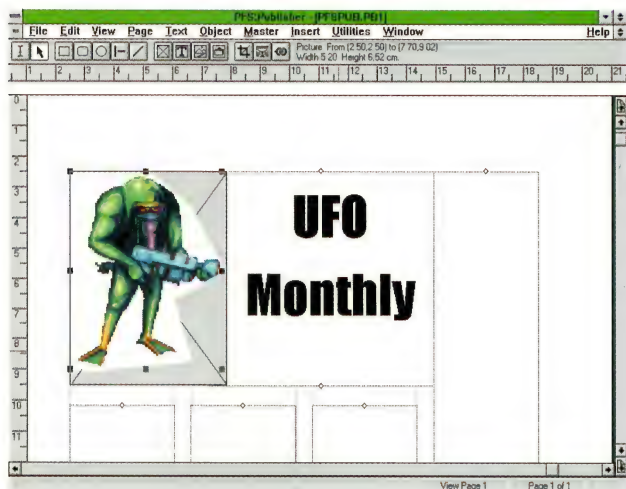
An early version of GST's PowerText. It's not as good as Pressworks' but it's functional



Anything other than line art comes out in monochrome in the final publication



## PENNY PUBLISHERS



I was going to cut this out and make the logo more attractive but the package simply wasn't forthcoming

## PFS: PUBLISHER

**T**HIS package suffers from much the same problem as 1st Press, in that it is a classic piece of down-graded budget software that simply doesn't compare to the latest releases. If you're definite that you only have £30 to spend and not £40, it's a bit of a toss up as to whether you go for this or 1st Press.

In its favour PFS: Publisher can incorporate colour graphics, but the lack of a headline styler makes things like headlines and logos more difficult to create. In the case of a headline you have to draw a frame, type in the text and then increase the point size of the text in order to get it to the right size.

It is much easier to use a tool like PowerText or WordArt found in some of the other packages to fill whatever size frame you have with whatever text you want. You can live without it, but it's not until you try to do it manually in a package like this that you realise how incredibly handy the option really is.

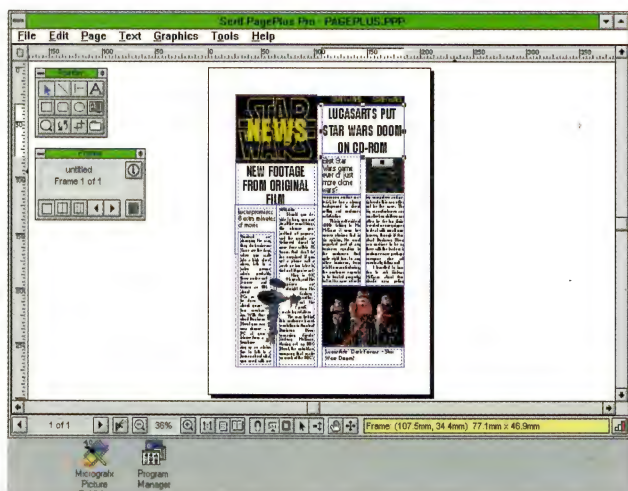
Picture handling is also more compli-

cated than in the other packages. If you import a picture, the frame has to stay in the same ratio unless you go into a menu and change it. For minor spacing alterations where the picture isn't going to be ruined by a few pixels of warping, it can be a bind.

Basically, once again, the features are lacking and the user friendliness that really should come with a cut-down package like this simply isn't there. It will produce very simple layouts but if you're really looking at around this price, once again I suggest you fork out an extra tenner for Pressworks.

Product	PFS: Publisher
Price	£29.95
Supplier	Spinnaker/Softkey
Tel	081-789 2000
✓	At least it'll take colour pictures
✗	Headlines and big text are hard to create

**PCH Verdict** ★★☆☆☆☆



At least the frames connect well which makes flowing text across them really easy

## BECKERPAGE LITE

**T**HIS is so cheap it's hard to ignore. For £15 you get a fairly reasonable low-end DTP package that looks nastier than any of the others but is basically comparable to PFS and 1st Press. It's not quite as simple to use as these but it does have a few extra features that could appeal such as the frame rotation ability so you can produce PowerText type effects without the need to worry about them too much.

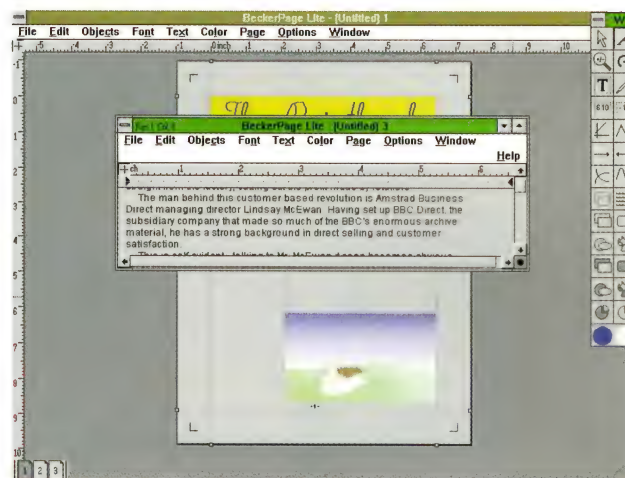
On bootup you are presented with a completely blank screen which can be a little daunting and I also had a slight problem with application errors when I had lots of Windows open underneath. However, you don't expect a package at this price to be incredibly polished and it stood up reasonably well to what I put it through.

I found flowing text from frame to frame was unnecessarily complicated – I basically ended up cutting and pasting

as an easier option and the on-line help is, to put it kindly, a little vague. Search for a subject and it just comes up with a list of all the menus. Graphics, however, work really well with scalable frames and plenty of drawing effects on the tool bar.

It isn't user friendly, it isn't particularly good, but for £15 it's a fairly harmless exercise in seeing if you like DTP. I urge you to go for Pressworks, but you could do a lot worse than BeckerPage Lite if you're feeling particularly tight.

Product	BeckerPage Lite
Price	£14.99
Supplier	Data Becker
Tel	0420 22707
✓	Handles graphics quite well
✗	Thinks text is a dirty word
<b>PCH Verdict</b>	★★★☆☆☆



A limited text editor comes with BeckerPage Lite which makes things a lot easier

## THE RISING STAR

THERE is little doubt in my mind as to the rising star of this round-up. GST Pressworks 2 is the best DTP package I have ever seen coming in at under £100. When you then go on to realise that the basic price doesn't even hit £40, it has got to be something worth celebrating.

It comes in at a very in-between price as far as these budget DTP packages go, but trounces more expensive and cheaper packages. It is similar in feel to MS Publisher, but this is no great problem since previously I would have counted Publisher as one of the easier packages to get into.

If you've ever considered taking a look at DTP now is the time to buy – such functionality has never been this good value and the software should still be going strong when a similar priced game has been well and truly shelved.

Even if you're not sure that DTP is something that you need, if you're in the business of making any kinds of publication from newsletters to business memos, you can easily impress people with ease using Pressworks' capabilities. It's going to need something really special to remove Pressworks from my machine as my DTP package of choice.



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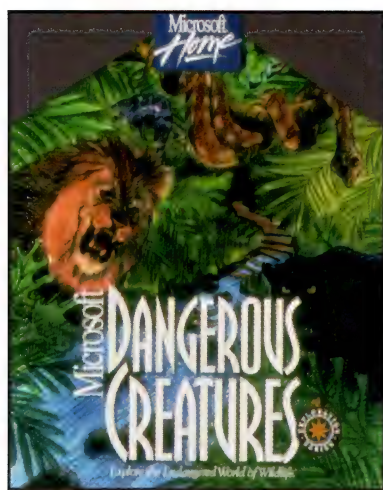
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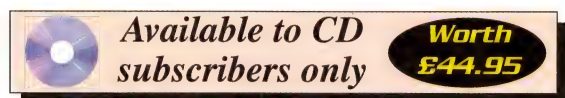
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### Dangerous Creatures

Microsoft Dangerous Creatures is a multimedia guide to 250 of the world's most dangerous animals and their habitats. It contains hundreds of full colour photographs, hours of sound, more than 100

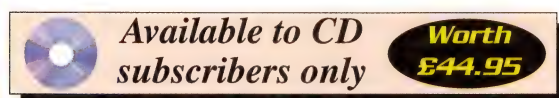
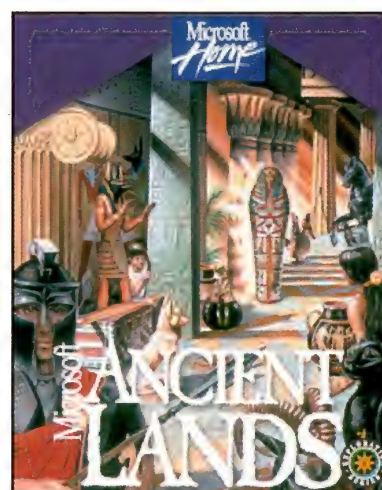
narrated videos and over 800 detailed articles. Explore the facts and myths about each of these dangerous creatures.



### Ancient Lands

Microsoft Ancient Lands is an interactive guide to the civilisations of ancient Rome, Greece and Egypt. Listen to legends and stories of everyday life, or choose from a selection of narrated tours. It

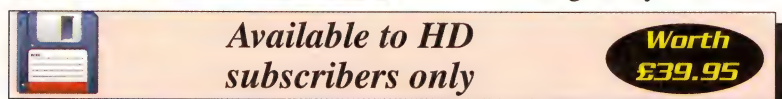
also offers an insight into the impact of these ancient civilisations on modern societies. Enjoy this interactive tour of the past.



### Alien Legacy



Sierra's Alien Legacy is an epic strategy game in which you must lead the colonisation of new solar systems. Earth is under attack from vicious aliens and the only hope of survival is to rebuild our forces in secret, well away from any alien threat. Have you got what it takes to rebuild humanity from the ashes and lead the fight of your life?

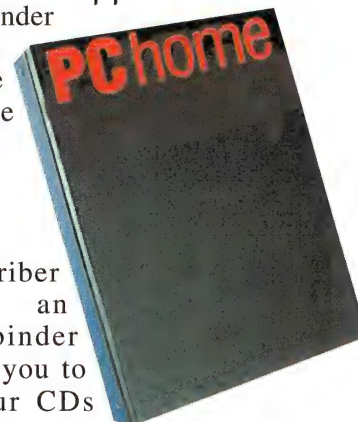


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# Retro classroom

**Some classics make a comeback, and a couple of new titles attract Wilf Rees's attention**

YOU can't get enough of a good thing, or so we are led to believe, and the same formula which has swamped the cinema screens has also invaded the computer software world. Fortunately, the new examples I want to show you this month do not share the same regurgitated, sausage machine syndrome as many of the cinema rehashes.

I looked at Thinking Things from Iona Software a few months ago, and a sister product has emerged as Thinking Things 2. This is not a tarted up new version, but a complementary collection of new activities based on similar events from the first.

Spell It 3 and Maths Blaster: Secret of the Lost City are further examples of the same principle, from Ablac, and offer further extensions of well established practice.

Jump Start Kindergarten, on the other hand is a completely new release from Guildsoft, and I must confess to not having seen a bad product from them yet.

## Thinkin' Things 2

As with the earlier title, Thinkin' things 2 is a compendium of five different activities, addressing diverse aspects of intellectual growth. Familiar characters from the first version re-appear to extend the tasks into greater realms of exploration and, believe me, while it's intended for children from 6 to 12 years of age, at the expert level many of the challenges will prove a struggle for many an adult.

Frippeltration is a pelmanism game using 16 squares at the entry level, and up to 144 at expert level. Matching pairs can be achieved either visually or, as the going gets tough, aurally,

offering 72 sample sounds to match.

Toony's Tunes is a musical offering, with a xylophone playing different notes. Fifteen tunes can be called up and played, and these need to be learned and played back either by clicking with the mouse or using keys to achieve success.

Learning progress can be a line at a time or the whole session, with constant help from Toony. There are three different types of xylophone, one of which is a brilliant row of sheep who bleat out the notes. Should creativity prevail, there is a simplified facility for saving up to 10 tunes.

On to Oranga Banga, and what was

my favourite section from the first version. This section is now completely different. Oranga's now got a band, adding Crocker and Punkie. Each member of the band plays any one from three different instruments, and their rhythms can be entered into a simple three-part pattern. The patterns can be edited at will, and the resulting output played back and saved as in Toony's Tunes.

This section of the software is genuinely hilarious and had all my family in stitches. Try clicking on any of the characters to get comical quips, especially in the Question and Answer mode, where complex patterns are played back, and you have to guess which member of the band played them or which of the offered rhythms was played.

The previous three sections of this package are excellent, and in themselves worth the cost of the software, but the last two really take it into the premier division.

Snake Blox, and 2-3D Blox are truly spectacular. Do you remember all those demos from years ago produced on the Commodore Amiga using bobs? If you do, imagine taking that process into the fourth dimension. If you don't, think of a row of spheres which move forwards and backwards, up and down, apparently in three dimensions.

Add to this the capability of moving in and out of an apparently 3-D structure pierced by assorted holes and you

get the idea. Now think of being able to alter the shape, colour, pattern, number and speed of the bobs, simultaneously changing the design of the 3-D structure and you have Snake Blox.

Absolutely everything can be edited, and several ready designed structures are offered. This is among the best utilisation of PC graphics at this level I have seen.

Take this same environment, add extensive drawing capabilities, shape extrusion options, an extensively configurable animated shape and direction and rotation control and you have two 3-D Blox.

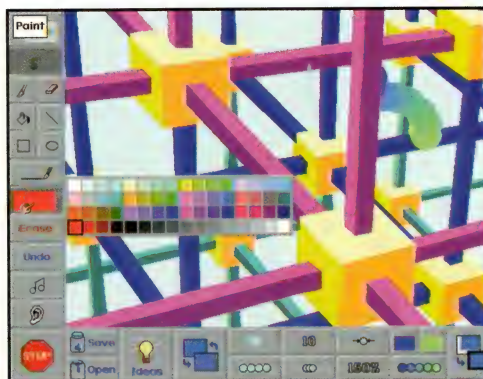
There is a quality unique to these applications which will mesmerise you, as will the haunting music available throughout the package.

Once all of these capabilities are brought together in Thinkin' Things 2, add the ability to configure the whole structure of the software via a programmable adult section, and you have an excellent offering. A genuinely first class product.

Product	Thinkin' Things 2
Price	£34.99
Supplier	Iona Software
Telephone	081-241 8925
✓	Innovative novel and compulsive
✗	Sound samples occasionally poor
PCH Verdict	★★★★★



Oranga Banga of Thinkin' Things has been joined by Crocker and Punkie to form a new band. Guess the rhythms, change the instruments or compose your own tunes



One of the most inventive features I have ever seen on educational software. No real intrinsic educational value other than compulsively beautiful and mesmeric in the extreme



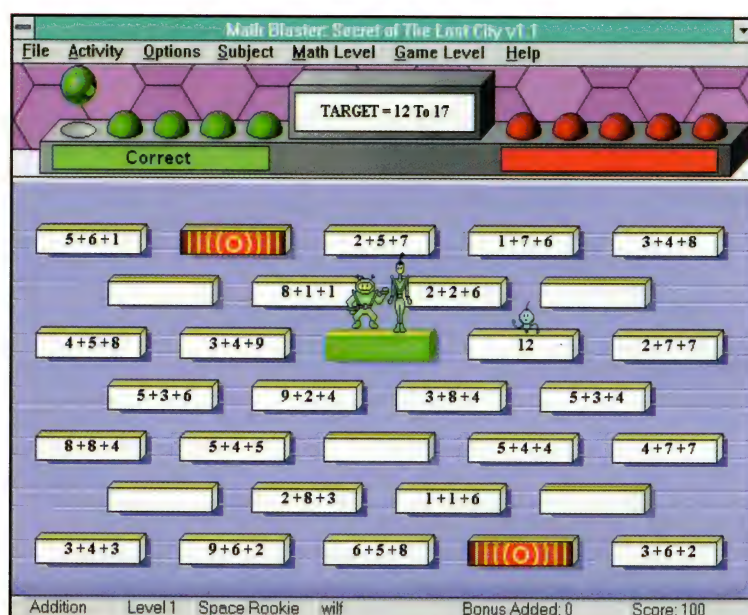
Music composition again, as well as a collection of 15 well known children's tunes to play along with. Clever software allows Toony to play either sections, or a full tune in Thinkin' Things



## RETRO CLASSROOM



**Positron Splash**, from *Maths Blaster: Secret of the Lost City*. The object of the game is to stop the Negatrons dumping the incorrect numbers in the turbo floor tubes. Do this by slinging lumps of blue chewing gum at them



The weakest of the applications in *Maths Blaster*, **Maze Craze** requires the quick calculating of equations to see if the answer lies between the parameters set. It gets seriously hard towards the end

# Maths Blaster: Secret of the Lost City

**D**EFINITELY a product falling into the edutainment category, *Maths Blaster 2* emerges with the same underlying educational emphasis, but truly a collection of games disguising the primary intent.

Stranded on a deserted planet, *Blasternaut*, *Spot* and *Galactic Commander* have four applications to solve in order to unlock the secrets of the legendary lost city and save themselves from deadly Doctor Minus.

The introduction to this Windows-based offering is beautifully animated and equipped with excellent quality sound samples. Mission planning enables you to plan difficulty levels from three options, and a system editor allows the introduction of new problems to ensure the longevity of the gameplay.

Four buildings on the main screen represent the four different activities, and these are accessed by the usual point and click.

**Number Hunt** is a clever team-work/logic exercise requiring the collection of various numbers and mathematical symbols to complete an equation. Each of the three main characters is available to move up and down the levels in the building, and each has different attributes capable of activating the assorted lifts, doors, pull chains and elevators.

The permutations of character capabilities and device requirements around the levels need to be reasoned

in order to allow the characters to collect the various elements of the equation distributed around the house.

Once all the elements are collected they must be sequenced in the correct order to complete the equation. An easy task at the simple levels, but further on – a real stinker.

**Positron Splash** is the next activity and is really great fun. Imagine a given equation, with one or two elements missing. Then envisage a stream of naughty Negatrons carrying loots of numbers, and you have to eliminate them by slinging positron pods at them.

These positron pods bear close resemblance to blue chewing gum, and splatter on contact. Hitting the

Negatrons isn't easy: Firstly they move progressively quicker, and secondly you need to aim in front of their forward movement.

The key to success, is allowing the required numbers for the equation to pass unhindered and solve the problem. Excellent sound effects and superb graphics make this addictive.

**Maze Craze** is the third application and the weakest of the four. It also happens to be the hardest to complete.

A range of numbers is offered, such as 14 to 20. On the screen are lots of platforms with equations written on them. Jumping to any platform with a solution within the given range allows the three heroes to escape – get it

wrong and they get captured by the Negatrons. Again at the highest level, this is very taxing.

**Creature Creator** is one of those compilation activities, where attributes such as shape, size, colour, number of eyes and body type have to be recognised from a given range to match a presented set of rules.

As creatures are created, their

image appears in a nine square grid and if their construction complies with the required rules points are awarded.

Spatial recognition and colour identification are tested quite severely towards the difficult end of the gameplay and the reasoning skills demanded to complete the sequencing necessary are certainly sophisticated.

All the aforementioned capabilities of *Maths Blaster 2* are available from pull-down menus, as well as on screen gadgets. However, additional facilities are available only from the menus, such as an online calculator to assist with problem solving and the ability to change levels, applications, maths topics and the help facility.

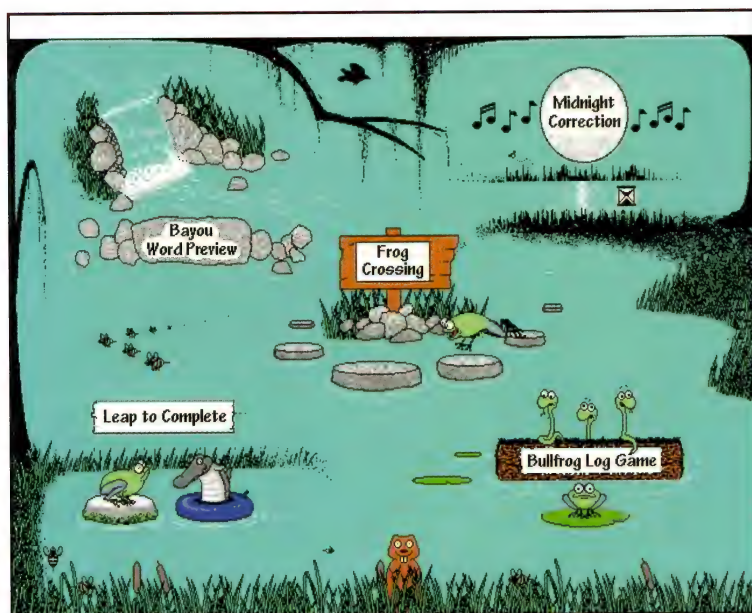
Available on disk and CD-Rom, *Maths Blaster 2: Secret of the Lost City* is a well rounded, sophisticated and versatile package and completion of the game allows the printing of a dedicated certificate. This package will provide hours of enjoyable fun and valuable learning.



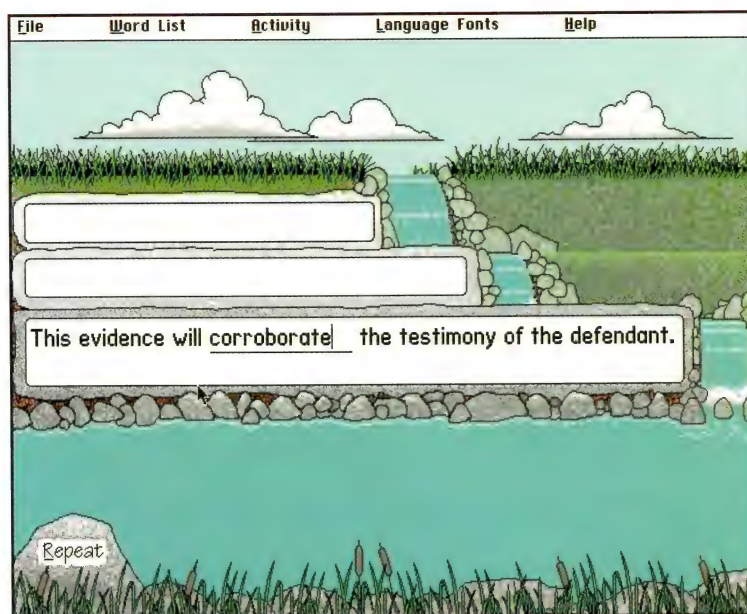
**Sequencing and shape recognition**: Attributes need to be put together into different permutations to achieve a non repeating outcome

Product	Maths Blaster 2: Secret of the Lost City
Price	£39.95
Supplier	Ablac
Telephone	0626 332233
✓	Versatile and configurable
✗	Occasionally too hard
PCH Verdict	★★★★★





The main menu-screen: All the applications are launched from here, and once entered, the pull-down menus appear to assist with options such as difficulty level, pronunciation, word lists and application switching



Words available in the word list become rather more difficult as we move to the higher end of the lists provided. This is Bayou Word Preview, and provides the easiest access to the total words supplied with Spell it 3

## Spell It 3

**T**HIS is another version from Ablac, of a previously successful product running via Dos and coming on two compressed disks. There is a nice simplicity about the whole program but having a morbid dislike of frogs I did struggle to work my way through it.

Bayou Billy is the hippest frog in the swamp, and is our guide. All the five applications are located in a

swamp, and the accompanying critters who frequently appear throughout are of the same origin.

Included with the package are 3,600 words divided into 190 word lists and six difficulty levels. The excellent manual even has them all printed out and categorised. Should these become exhausted, you can simply add your own.

The applications are not overtly

sophisticated, but then this is a budget package, and despite the limitations it is versatile and amusing.

Bayou Word Preview is the application with the most direct access to the word lists.

A word will be flashed on screen and then it must be typed into the context sentence displayed.

Speech can be turned on, offering the correct pronunciation, but this does display the American origin of the package, and I didn't find it really added that much to the overall capability of the product.

Frog Crossing is a jumbo crossword in which a sentence is displayed with a word missing. This has to be entered correctly spelt on to the board.

Any difficulty guessing the word can be assisted by viewing the online word list help.

Midnight Correction sees us in the swamp at night, and is essentially a text editing program.

A sentence is displayed with an incorrect spelling somewhere and this needs to be corrected using the normal keyboard editing facilities. As final scores are achieved, a collection of musical frogs appears on the lotus leaves and they begin performing a tune.

Bullfrog Log is the poorest of all the options and, essentially, offers four versions of a spelling. The correct choice causes Bayou Billy to sling

rocks through the log bearing the answer, dislodging a stunned snake from inside the log. It sounds rather boring and, frankly, it is.

Finish Word is the last application and involves Bayou Billy leaping up and collecting letters which travel past. The correct letters only can be grabbed in order to complete the spelling.

A nasty 'gator appears every so often, intent on a swift lunch, and he needs to be avoided by leaping on to the next leaf. As with other applications in Spell it 3, switching on speech offers help in spelling the offered word.

This is a nice, simple-to-use program, which allows extensive configuration options as well as sound and foreign character support.

It is intended for six-year-olds upwards, and certainly provides a useful provision for any spelling improvement. But it also has excellent qualities suitable for children with special needs or learning difficulties. **PCH**

Product	Spell it 3
Price	£34.95
Supplier	Ablac
Telephone	0626 332233
✓	Nice and versatile
✗	American sound samples
<b>PCH Verdict</b>	★★★★☆



Midnight Correction is an application from Spell it 3, and provides a text editor, which at the simplest level contains an incorrectly spelt, boxed word. At higher levels, the error is not identified, and the user has to read and correct the errors, using the keyboard





# MEGABYTES

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# A thirst for knowledge

## Christina Clarke puts three children's encyclopedias to the test

A COUPLE of years ago multimedia encyclopedias were just starting to make a dent in the education market. Dinosaurs like Grolier's or Comptons were preferable to wading through countless printed volumes of Encyclopedia Britannica, but there was little in them to stimulate the interest of tiny minds.

Around that time I tested adult encyclopedias on several groups of children who found electronic referencing more interesting than consulting a dictionary, but considered presentation to be generally stuffy and irrelevant to their lives.

Companies like MDI did produce encyclopedic-like products covering one specific area such as butterflies, animals or world issues, but a comprehensive reference tool covering many areas of human knowledge was sadly lacking.

As CD-Roms started to move out of the library and into the classroom, and developers became aware that encyclopedias were something for all the family to enjoy and benefit from, the last six months or so have seen a spate of new releases intended primarily for children.

Like their hybrids, the three products we put under the microscope are all distinctive and useful in their own way.

encyclopedia I've seen which covers many areas of knowledge using an imaginative and fully multimedia approach.

This encyclopedia examines and defines everyday phenomena which effect the lives of children everywhere, be it the food they eat or what people do when they work and play. Rather than just present dry facts out of context, it enhances understanding by relating fact to life.

The food section goes beyond the scope of an encyclopedia by including recipes for budding chefs to try out, and almost every object in the kitchen transmutes into either an activity or a video explanation of a term such as *refrigeration*.

There are games common to all branches of knowledge, and some which are unique. Old favourites include a question and answer session where the child clicks on a friend to hear a question posed like *Why do skunks smell?*. Select a friend and an answer is given.

Watch out for one offs like the building and towns perch where cut outs of buildings have to be placed in the right slots before you get the low down on what libraries and schools are used for.

Obviously tasks like this will be more informative for six-year-olds than the top-of-the-age range, but physically having to move buildings into place might well help the words

stick in a child's head. Older children will get more out of the subjects like Geology or Geography, and the activities with a more factual content.

Art in one form or another features prominently. Many of the sections have screens where related drawings can be coloured in, such as paintings of great artists or cars in the transport section. There's also an opportunity to have some fun mixing up the body parts of many animals to form a new species.

What's new about this is the automatic creation of a new animal name, incorporating letters from the animal parts used to make a new beast.

In the room which travels under the banner of *Where do we create?*, there's an opportunity to draw freehand using some interesting paint tools.

Just as the adult CD offerings helped redefine what an encyclopedia could be used for, so this pint sized one breaks down the barriers of encyclopedic organisation and presentation and shows us that information can be handed out on many different patterned plates.

Product	My First Encyclopedia
Price	£44.94
Supplier	Guildsoft
Telephone	0752 895100
✓	Visually interesting
✗	Written information could be more detailed
PCH Verdict	★★★★★

## My First Encyclopedia

CHILDREN tend to acquire knowledge more effectively in small, packaged chunks. Not only is this the design route Reed Interactive have taken, but they've also managed to present information in a way which is appealing to 6 to 12-year-olds.

There are educational activities and projects which help to link ideas rather than a pure regurgitation of facts, and although the categories covered aren't particularly wide ranging, areas which interest most 6 to 12-year-olds, from transportation to astronomy are investigated.

The main menu reaches several screens upwards and comes in the form of a shapely tree. Click on a char-

acter perched on a branch and enter still more creative worlds.

The beauty of all this is that children don't need adult help to find out more about Geology, Arts or Animals. It really is simple to dip in and out of rooms in the magical tree of learning.

Videod instructions on how to proceed lurk here and there, or at least vocal direction is forthcoming. Using kids from diverse ethnic groupings to explain definitions and terms is easier for children to relate to and conducted in a clear, casual and concise way which more mature commentators may not have been able to achieve. The relaxed conversational style just hooks young people in.

This is the first adult or child-based



Watch videod conversations and get the answers right



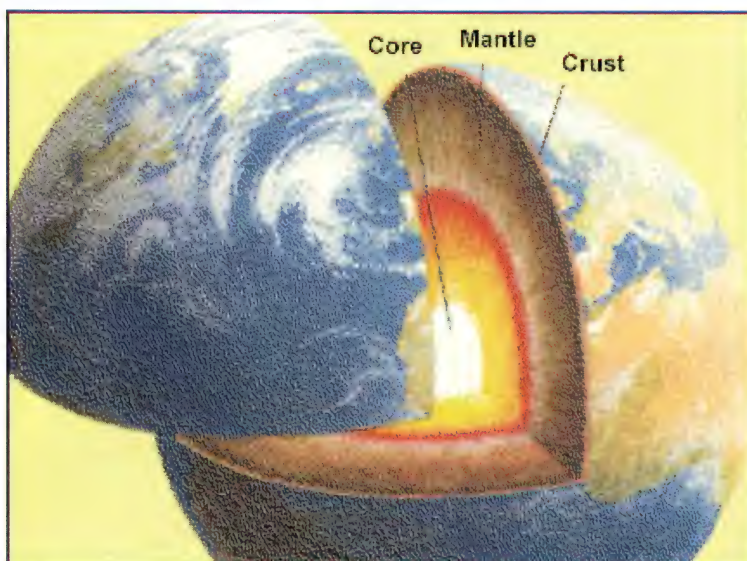
Browse through the animal album and find a friend or two



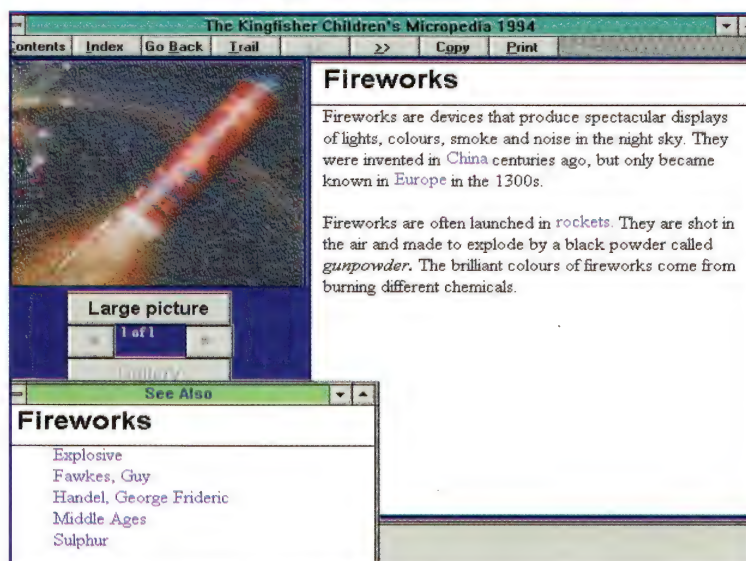
Join the careers class and learn more about possible employment



## A THIRST FOR KNOWLEDGE



The most outstanding facet is the ability to enlarge many pictures



Make fireworks and peek at related topics

## The Kingfisher Children's Micropedia

**T**HE Micropedia is based on the *Kingfisher Children's Encyclopedia*, found on library shelves up and down the country. It comes in a more traditional guise and would be ideal as a resource tool for primary ages children struggling with homework.

Artwork is a strong point, with over 1,600 pictures which illustrate and inform the articles. These are often hand drawn, but nevertheless lifelike.

The Show Large Picture Option is a great opportunity to examine organs like brains or tongues in more

detail by blowing up illustrations full screen. Go to sections of the illustration and text appears explaining the function of that part of the organ.

If related topics are of interest then rather than go back to the contents page where 12 topic areas are listed, you can select the See Also dialog panel which appears under the illustrations.

Move from details on fireworks to Guy Fawkes, or if you're not sure where to find some information, scan the All Articles button to display a list of 1,300 articles in alphabetical order. Words which appear in

blue are cross linked with related articles as well.

Unfortunately there is often only one picture for each article, and just three pictures in the herb topic doesn't really do the diversity of plants justice. By way of compensation the Gallery button does permit up to four pictures to be displayed at once, if four are available.

Don't expect many sound effects though. Only about 15 subjects include sounds to add another dimension of understanding to an article, such as the piano and woodpecker.

This isn't a full multimedia product, though, as spoken commentary and video footage is sadly lacking. Somehow this is in keeping with the style of Kingfisher's offering, as too many multimedia effects could have taken away from those beautiful illustrations.

There are also more hard and fast facts than the other two products, with an amazing 1,300 entries. Did you know? entries have box outs which add humour and reflection to topics, from political quotes to amusing anecdotes.

Have you ever extracted a few key facts from an encyclopedia, come to the point of wanting to jot them down to include in a project, then forgot where they were placed? This is where the trail finder comes in. It tells you where you've visited, article by article.

With a little guidance young pupils should be able to explore top-



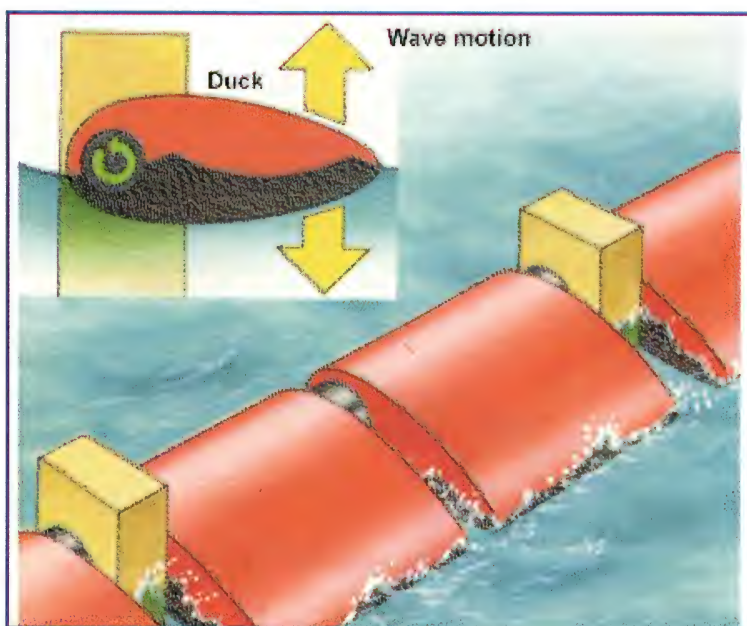
The main menu screen is blunt and to the point

ics themselves, but the activity cards are a useful way to introduce children to Micropedia and its functions.

Eight to eleven-year-olds will find the Micropedia extremely useful for homework, and there's no need to trek down to the library any more with offspring as they can consult the electronic version of the tome in minutes in the comfort of their bedroom.

The NCET advised in the development of the product, so parents can be assured that the information is in tune with what the kids are learning in school.

Product	The Kingfisher Children's Micropedia
Price	£88.13
Supplier	LDA
Telephone	01223 357788
✓	Examine the Earth in minute detail
✗	Some videos would have been preferable
PCH Verdict	★★★★★☆

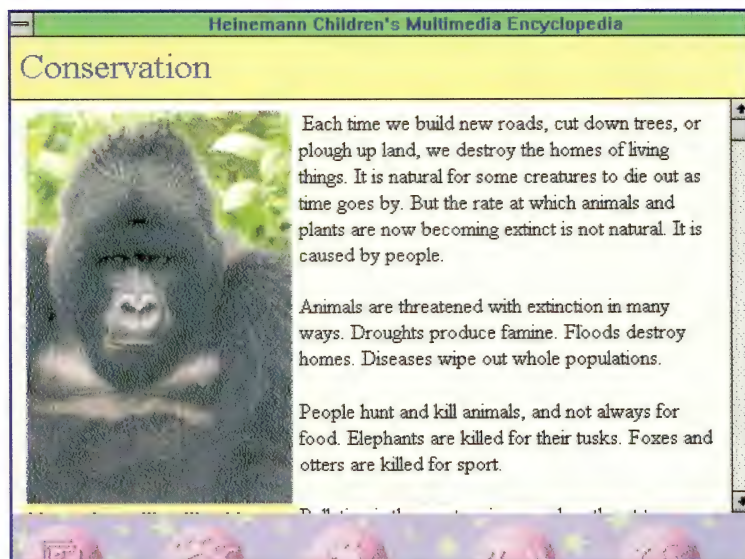


Scroll through text while learning all about wave motion





The title screen is as good a place to start as any



Check out the section on conservation

## Children's Multimedia Encyclopedia

**A**LTHOUGH this encyclopedia relies much more on real life photographs, video footage and sound effects, it may have fewer cross references and supplementary layers to unpeel, but much more imagination has gone into presentation.

See a doctor at work examining a patient with a stethoscope, or Margaret Thatcher give a brief speech on terrorism strategy.

The only trouble with the video footage is that the clips are terribly short and not always in total context with the accompanying text.

There is a lot more spoken commentary though and moving diagrams to explain phenomena like blood coursing around vessels as it makes the journey around the heart.

This is almost as good as having a teacher standing behind you, pinpointing key facts.

The contents page is more attractive than the Kingfisher encyclopedia with relevant pictures next to topics listed.

There are 10 topics in all including more grown up areas like Travel and Communications, and more obvious choices like Famous Men and Women.

Children's Multimedia Encyclopedia (CME) lies somewhere between the other two featured here. Articles can be accessed in five different ways, and icons dotted around the side of the screen aid the process.

A more modern approach has been taken without the drawbacks of the heavy Americanisation of My First

Encyclopedia whose conversational speech tends to thin in content. CME is brief and to the point but has some real substance.

The text in the Kingfisher CD can be slightly stuffy at times.

The 6 to 12 age tag is fully appropriate, although parents would probably find the traditional Kingfisher product more useful if budgets don't run to adult and childhood products.

My First Encyclopedia is illustrated with a mixture of photographs, video footage and cartoon graphics. The Micropedia relies heavily on hand drawn illustrations.

Some children find it easier to grasp information if real life images are used, so if your child learns better this way then this is the right choice for the family.

Expect plenty of detail with this useful referencing tool, but although breadth of knowledge is attained, in some cases it's at the expense of generalisms and brevity. CME is a good safe bet for all the family, not just for the children.

Product	Children's Multimedia Encyclopedia
Price	£69.33
Supplier	Bastion
Telephone	0171-490 1323
✓	There are lots of ways to find out one thing
✗	Video clips are a little on the short side and sometimes out of context
<b>PCH Verdict</b>	★★★★★☆

## Horses for courses

**CHILDREN'S** encyclopedias may well redefine the way all encyclopedias are put together and set out to achieve. Where they place the emphasis on fun as well as information, they cease to be dull archives of facts and become sources of inspiration and further investigation.

The only danger here is that the lines between edutainment products and reference resource material will become blurred, and this could be at the expense of quality control for each genre.

My First Encyclopedia borders on being a cross-curricular edutainment product, with no guidelines to where it fits into the school curriculum.

There will always be a place for more traditional encyclopedias like the Kingfisher when a quick reference guide is all that is required. It simplifies without patronising and includes some well drawn illustrations which help feed the imagination.

If you're greedy for knowledge but want the benefits of a full multimedia slideshow, plump for Children's Multimedia Encyclopedia

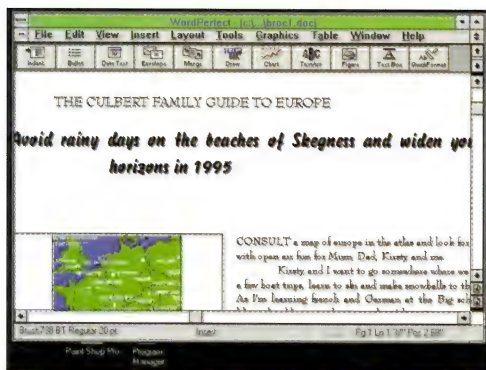
The style of encyclopedia you go for will depend on the character of the individual child and the intended use. Is it just for school project work, or a way to get the offspring interested in a non-curricular school subject? The choice is yours.

## Products at a glance

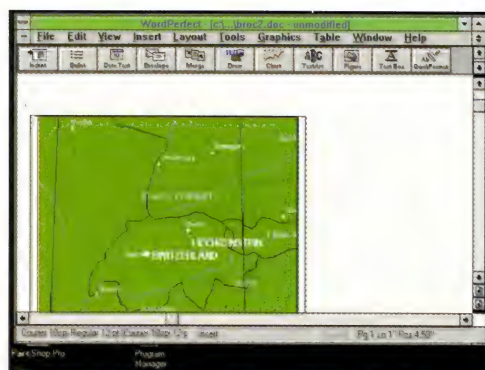
Product	Content	Ease of use	Presentation	Originality
My First Encyclopedia	4	6	6	6
The Kingfisher Micropedia	5	4	3	4
Children's Multimedia Encyclopedia	5	5	5	5

PCH

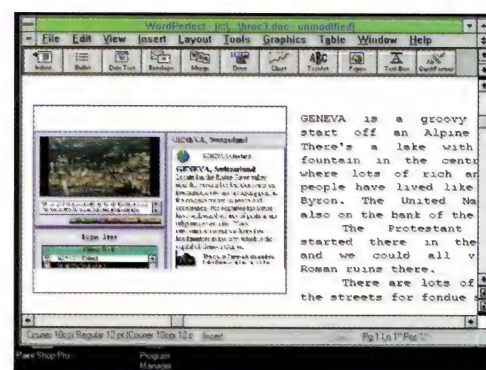




Extract a map of Europe from an atlas and show which regions your holiday resort rubs shoulders with



If reproducing artwork from other sources, remember to crop it before importing it into your WP. You won't be able to do so afterwards



Home in on a city of interest like Geneva, and put your text down the side for the professional touch

**Kerry Culbert shows how to design travel brochures which give children a voice and help make this year's annual vacation an enjoyable experience for everyone**

# Crafty travel plans

**Age range**  
Eight to adult

**S**PRING is in the air and thoughts are turning to those laid back days at local beauty spots and the annual family vacation. Holidays and short breaks are enjoyed by all the family, but it's often the parents who wander down to the travel agent, lethargically select glossy brochures, and plump for the cheapest package which the travel agent manages to make sound the most appealing.

Before the Walkman has chance to drown out your arguments about what an happening place Portugal is these days, the spotty offspring are moaning there's no action on that European leisure park, or younger fledglings run the risk of cutting their little feet on discarded

beer bottles on filthy beaches if Dad succeeds in his bid to visit Blackpool Tower for the 20th time.

There's nothing wrong with package tours or local hops provided you find out as much as possible about places which you fancy exploring beforehand. The trouble with High Street brochures is they're high on woolly descriptions of tourist attractions but low on factual information on what the place is really like and what you can do there.

Read on for some ideas on how to present the ultimate family leisure breaks to mum and dad this year, and hopefully there will be no need to turn on the Walkman, at all.

## STEP 1

GATHER as much information together as possible so that the right place for all the family can be investigated and pasted into the brochure to be constructed in the wordprocessor. Why not ring relative in other regions of the UK and ask about any unusual beauty spots they know about? Or try CompuServe and get new friends to E-mail you with their ideas on cool theme parks or ice-cream parlours to visit.

## STEP 2

COLLECT electronic data to paste into the brochure. Most multimedia homes will have a software encyclopedia on the shelf. We used Compton's Interactive Encyclopedia, homing in on the geography, travel and transport sections. It's time to start making the guide, and illustrations are as good a place to start as any.

## STEP 3

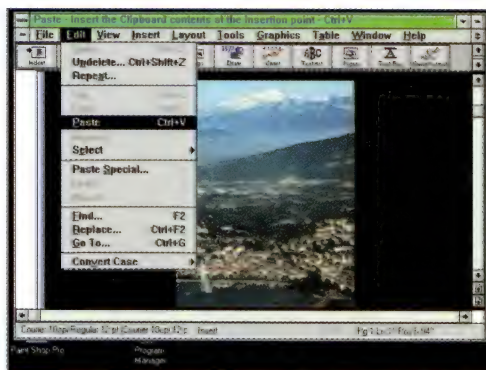
LOAD up a graphics package like Paintshop Pro which supports the

### What you'll need

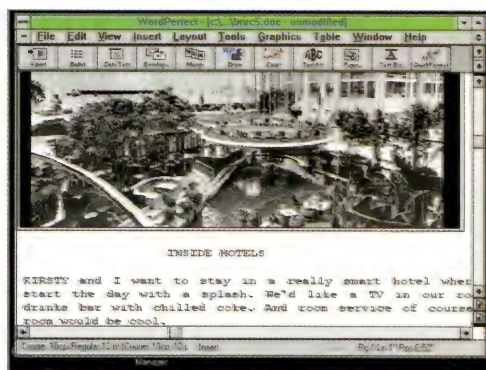
- An electronic or printed map of Britain or Europe
- WordPerfect 6 or Word for Windows 6 and a Windows image processing package that can crop and supports the clipboard. I used the shareware programs Paint Shop Pro and Graphics Workshop
- Information obtained from Tourist Information Centres or library reference books
- Online information service access if possible
- Paper
- Printer
- Staples
- Colouring pencils



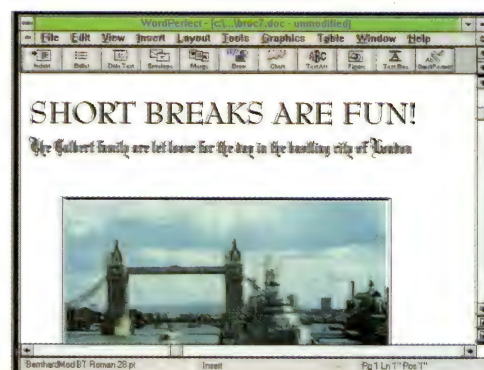




Copy graphic files to the clipboard then paste them into your wordprocessing document



Stay in the ultimate hotel – and put in your request for what kind of service you expect



You can go font crazy for headlines and introductions so your parents know that you really want to see HMS Belfast

clipboard and load the encyclopedia. If you have decided on a day trip to London, a picture of a floating museum may be appropriate. Press Print Screen to copy the image to the clipboard, then minimise and switch to Paint Shop Pro. Select paste from the Edit menu, then Save.

A new screen will appear with a dialog box

where a file name can be entered. Close the image and minimise the screen by going to the downward arrow. Keep on in this vein until you have

captured enough images for your brochure.

An alternative method of getting hold of the pics is to use a scanner to scan in shots from advertising material – though parents will probably be needed for this process. Alternatively CompuServe has a wide variety of graphic files on holiday destinations that can be downloaded.

## STEP 4

BACK to illustrations that have been grabbed from other software. A commercial image processing package will support both cropping and the clipboard, but if you are following the shareware route it's time to crop them in Graphics Workshop.

Exit Paint Shop Pro altogether and load GWS. Move through the hard drive directories until you find your unedited pictures. Select the first one by clicking on it once, then select crop from the main menu.

The file will be loaded and you can now crop and keep the area you want to use in the brochure. Drag the cursor across the area to be used and go to the only menu. Select save and then

the format you want to use – GIF or PCX will be fine.

Use a different filename so that you can then double click on the file to load and view it. If the cropped image is what you want, fine. If not, re-edit the original and save again.

## STEP 5

IT'S the wordprocessor's turn to spring into action next.

Once in it, start a new file. Then go to the insert file option and load in the first picture. It's time to play around with

fonts and write the text now. This is where the real fun

begins. Fonts is lurking under Layout, and as long as a size of at least 20 points is selected for the headlines and about 12 for the text, the sky's the limit.

## STEP 6

THE information to be included is up to the individual. Maybe play facilities for handicapped children is an avenue you wish to pursue, or the top 10 paddling pools in Dorset. Write text above, on top of, below or at the side of pictures, and don't forget to number the pages either manually or using the add page number function.

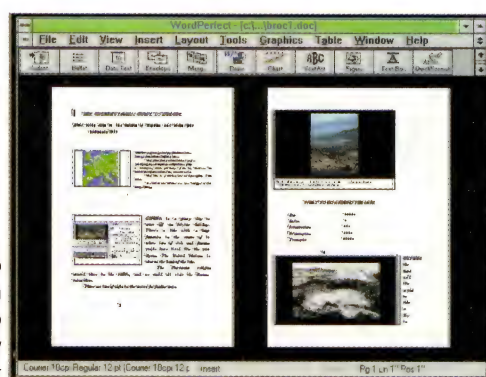
## STEP 7

REPEAT the process for each picture and item of text. Remember that the pics can be resized to suit by clicking once and then grabbing the handle bar in the bottom right corner.

## STEP 8

When the content is just the way you envisaged, print out each page and staple them together.

Use the display two pages at once option from the view menu to get a good idea of how the brochure will look



## Hints and tips

TO make the brochure as appealing as possible, present information in new and interesting ways. What about a trivia quiz on places to visit in Geneva, or the use of symbols to represent hotel ratings?

Why not add drawings of beach scenes from the imagination using Windows Paintbrush to show the parents the kinds of things you want to do on vacation?

Import details on education, culture or art from atlases and encyclopedias into the brochure. This makes much more interesting reading than commercial brochures which are crammed full with tanned figures in bikinis and little else.

Make some postcards to help market the destination you want the family to choose. The Software Toolworks World Atlas has stunning images which can form the basis of the postcard.

Use Abacus's Kid Pix and open the square tool to draw a rectangle. Pencil, Paintbrush and Stamp tools do the rest. Kid Pix Companion has piles of pictures of stamps from around the globe.

Remember to make a new file for the back with a vertical line down the centre of the rectangle this time, and three lines on the right hand side for the name and address of the recipient. Perhaps even a small description of the image on the front? Save and print out both files and glue both sides to a piece of cardboard.

If time is of the essence, why not just make a guide of the local community? Any PhotoCD pictures taken outside the local church or school can be used, and attractions in friend's houses explored and explained including outdoor swings, ornamental pools or grassy areas to play football on.

Bank holidays will never be the same. If you look forward to a quiet day's gardening away from the stresses and strains of the office, think again. The children will have those lazy hazy days mapped out for you in advance.

Don't be surprised if the Short Break Brochure is pressed into reluctant fingers listing the best playgrounds in the UK, and suggestions to visit the tight rope slide in Land's End first.

The positive side to all this is that design skills will have been fine tuned in the process, and all that decision making centred around geography, tourism and transport will hopefully result in a fluent and useful holiday guide to help the family make the most of leisure time spent away from the monitor. **PCW**



# INDI DIRECT & CALCULUS Stores

Page 1

## OPTIONS

### ALL INDI PRODUCTS ARE DELIVERED FREE OF CHARGE

Buying Mail Order is convenient and the prices are great. But sometimes it is important to actually see the product and take it away the same day. That's where our new Options scheme comes in. iNDi Mail Order or a visit to one of our Calculus Stores, the choice is yours. The same quality Service and with this Exclusive reader offer, Calculus will match any iNDi Mail Order price on the Spot. Add No Deposit Credit, nothing to pay for 6 Month or 0% finance plus a Trade in Deal\* on your old PC or Monitor we believe that this is the most exciting offer anywhere.

**NO DEPOSIT, 0% INTEREST  
6 MONTHLY PAYMENTS\***

\* ON SELECTED PRODUCTS

**ON-SITE EXTENDED PC WARRANTY  
UPGRADE TO 2 YEARS UPGRADE TO 3 YEARS**  
**£99 Includes all parts and Labour £199**

### HYUNDAI 486 DX2-66 GREEN COMPUTING

This superb system has been awarded EPA certification with a power consumption of less than 30 W in sleep mode.. But that's just the beginning. Try to find a deal as good as this if you can - we tried - and failed.

- Intel 486DX2-66 Mhz processor
- 128K Cache
- 270 Mb Hard Drive
- 4Mb RAM (upgradable to 128 Mb - 72 pin 32 bit)
- VESA Local Bus, SVGA Card
- 1Mb VRAM with Cirrus Logic GD - 5428 upgradable to 2Mb.
- 1 parallel, 2 serial, PS/2 mouse and keyboard ports.
- 102 key keyboard and mouse
- MS - DOS 6.2 and Windows for Workgroups 3.11

12 MONTHS ON SITE WARRANTY

#### PROCESSOR & HARD DRIVE OPTIONS

**DX2-66 540Mb Hard Drive £707 £830.73 inc VAT**  
**4Mb to 8Mb RAM £129 £151.58 inc VAT**  
(configured price)

**NO DEPOSIT 0% INTEREST  
\*6 MONTHLY PAYMENTS**

ON ALL HYUNDAI PC SYSTEMS

**£667 + VAT**  
£783.73 inc VAT

**6 Monthly Payments of £130.62**  
Now choose your monitor

#### HYUNDAI 14" SUPER VGA NON INTERLACED MONITOR

\* Clear 0.28 dp and high resolution 1024 x 768  
\* Non Glare dark face anti static  
\* Low emission complies with MPRII  
\* Ergonomic tilt and swivel stand  
**£168**  
£197.40 inc Vat

#### PANASONIC TX-D1732 MULTI SCAN MONITOR

\* 17" 0.28 dot pitch \* Low emission MPRII \* 1280 x 1024 high resolution (N.I./60Hz / max) \* High refresh rate 75Hz \* On screen menu displays \* Power saving function \* Digital Multi scan (Full Front Digital Controls \* Colour Temperature adjustment  
**£508** £596.90 inc Vat



**INCLUDES NEXT DAY ON SITE  
WARRANTY &  
12 MONTHS HELPDESK SUPPORT**

### HYUNDAI P60 PENTIUM PROCESSOR "QUAD DRIVE" MULTIMEDIA POWER SYSTEMS

**MULTI MEDIA** Power Pack  
TECHNOLOGY

This really is the ultimate Multimedia system. A superb Pentium, a State of the Art Quad Speed CD - ROM Drive, 16 bit sound card and a powerful 30 watts per channel Graphic Equaliser to give you top quality Stereo Sound. A real future proof investment at an extraordinary price plus our **BUY NOW PAY LATER OR 6 MONTHS 0% INTEREST DEAL**

#### PENTIUM P60 MULTI ENTERTAINMENT SYSTEM.

This system brings together a Hyundai P60 Pentium system and the following factory fitted option.

- \* NEC CDR - 272 Quad Speed CD ROM Drive \*
- \* PS5000 60 watt Graphic Equaliser \*
- \* JWP Classic Speakers
- \* 16 bit Soundblaster compatible sound card
- \* Frontier 8 CD Title software pack

Now choose your monitor

**£1329**

£1561.60 inc VAT

**\*6 Monthly Payments of  
£275.93 0% APR**

**NO DEPOSIT 0% INTEREST  
6 MONTHLY PAYMENTS**  
ON ALL HYUNDAI PC SYSTEMS

#### MONITOR OPTIONS

Hyundai 14" SVGA **£168** ex VAT  
Panasonic TX-D1732 Multi Scan **£508** ex Vat

#### SYSTEM SPECIFICATION

- \* Microprocessor : Intel Pentium P60
- \* Cache: Level 1, 16 K. Level 2 256K upgradable to 1Mb
- \* RAM: 8Mb 32 - Bit, upgradable up to 192 Mb
- \* Storage: 1.44 Mb Floppy Disk
- \* Hard Drive: 540Mb
- \* Integrated Motherboard with 3 x PCI and 4 x ISA slots
- \* Video PCI Local Bus Video Card
- \* PCI IDE: Dual Connector (mode 3)
- \* 1 x parallel (25 Pin)
- \* 2 x Serial (9 - pin)
- \* EPA: Energy Star Compliant
- \* 1Mb Flash Bios
- \* CPU Heat sink and Cooling Fan
- \* 102 Key Keyboard and mouse
- \* Microsoft DOS 6.2 and Windows for Workgroups 3.11



#### HYUNDAI P60

**NO DEPOSIT 0% INTEREST  
6 MONTHLY PAYMENTS**  
ON ALL HYUNDAI PC SYSTEMS

**£999**

£1173.83 inc VAT

**\*6 Monthly Payments of £195.64 0% APR**

#### \* NEED MORE INFO?

- \* NEC CDR -272 Quad Speed CD ROM + Software Page 4 of this advert
- \* PS5000 Graphic equaliser Page 1 of this advert

\* Subject to Status

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# INDI DIRECT CALCULUS

## Options

### Page 2

## ALL INDI PRODUCTS ARE DELIVERED FREE OF CHARGE

Turn your Hyundai PC into a fully fledged Multimedia System with the addition of any of the following Option packs. All factory fitted and quality controlled before delivery.

**TRADE IN YOUR OLD PC  
OR GAMES COMPUTER**

(ONLY AVAILABLE FROM CALCULUS STORES)

**NO DEPOSIT, PAY NOTHING  
FOR 6 MONTHS\***

OPTION PACKS 1 AND 2 INCLUDE THE NEW FRONTIER SOFTWARE PACKS, UNDOUBTEDLY THE BEST QUALITY CD ROM PACK AVAILABLE WITH 8 CD TITLES WORTH ALMOST £400.



## FRONTIER

### 8 CD ROM TITLES WORTH £374.92 RRP

<b>WORLD CUP GOLF</b> An amazingly accurate World Cup Golf Simulation	<b>£49.99</b>
<b>NOVASTORM</b> High flying 3D blast 'em up	<b>£44.99</b>
<b>ECSTATIC</b> A nightmare that you have not yet experienced	<b>£44.99</b>
<b>ALL NEW WORLD OF LEMMINGS</b> Larger Lemmings in crazy costumes	<b>£44.99</b>
<b>THE NEW DICTIONARY OF THE LIVING WORLD</b> A complete multi media guide to the Living world	<b>£44.99</b>
<b>VIRTUOSO</b> Welcome to the world of Imagination	<b>£39.99</b>
<b>COMPTONS 95 INTERACTIVE ENCYCLOPEDIA</b> The Most powerful Educational tool available	<b>£69.99</b>
<b>EXTRACTORS-</b> If you liked Diggers you'll love Extractors	<b>£34.99</b>

## MULTI MEDIA 1

### TECHNOLOGY

### QUAD SPEED PACK

- \* NEC CDR - 272 Quad Speed CD ROM Drive
- \* CAPACITY - 656 Mb (Max Mode 1)
- \* DATA TRANSFER - 600 byte /sec (4x mode)
- 150 byte /sec (1x mode)
- \* ACCESS TIME - 250ms (average)
- \* MTBF - 70,000hr
- \* INTERFACE - 40 - pin connector (Atapi protocol compatibility)
- \* COMPATIBILITY - High Sierra, ISO 9660, PhotoCD, Multisession, MPC Level 1, MPC Level 2, CD ROM XA, CD - DA, White book.
- \* 16 - bit Stereo Soundcard
- \* Stereo speakers

**PLUS THE NEW FRONTIER SOFTWARE BUNDLE OF 8 CD TITLES WORTH £374.92**

**£239 + VAT**  
£280.83 inc VAT  
**FACTORY FITTED**

**£248 + VAT**  
£291.41 inc VAT  
**STAND ALONE PRICE**

THE PS-5000 EQUALISER AMPLIFIER IS FITTED AS STANDARD IN BOTH PENTIUM QUAD POWER SYSTEMS. IT CAN BE FITTED TO ANY PC PURCHASED FROM US, OR BOUGHT AS A SEPARATE ITEM.

### 7 BAND CONTROL WITH DYNAMIC FILTERING FOR YOUR MULTIMEDIA PC

#### SPECIFICATIONS:

- Fits into any free 3.5" bay
- Suitable for all IBM Compatible PC's
- Can be connected to your sound card and / or CD - ROM drive
- 60 watts (30 watts per channel) high quality stereo output
- Designed with noise reduction (NR) and low distortion (LD)
- 7 band control equaliser with Dynamic filtering that can select different bands of frequencies
- Dos and Windows Multimedia software discs bundled free of charge
- Adjustable volume control, on and off, the fader(balance) control all in one Knob.
- 12 Months Warranty

The PS - 5000 is designed to be used with speakers that have a MINIMUM rating of 30 watts per channel. Using speakers rated at less than 30 watts may cause permanent damage



**Option 1** inc. Speakers  
A factory fitted PS - 5000 Equaliser Amplifier built into a Hyundai Multi Media System together with a pair of top quality 30 watts per channel stereo speakers, each with a separate woofer and tweeter. The ultimate Multimedia experience. Speaker size - 10" x 5.5" x 14"

**£108**  
£126.90 inc VAT

**Option 2**  
A PS - 5000 Equaliser Amplifier complete with comprehensive fitting instructions

**£77 + VAT**  
£90.48 inc VAT  
Speakers can be bought as a separate item  
Speakers used in conjunction with the PS-5000 must be a minimum of 40 watts

IF YOU ALREADY OWN A PC, OPTION 1 & 2 CAN BE PURCHASED SEPARATELY

**ALL INDI PRICES INCLUDE FREE SECURICOR DELIVERY**  
BEFORE YOU BUY ELSEWHERE PLEASE CHECK FOR ANY HIDDEN COSTS

## CREATIVE

### CREATIVE LABS

<b>1. 3DO BLASTER</b>	<b>£299</b> £351.33 inc VAT	<b>4. AWE 32</b>	<b>£179</b> £210.33 inc VAT
<b>2. CD DISCOVERY 16</b>	<b>£230</b> £270.25 inc VAT	<b>5. GAME BLASTER CD</b>	<b>£229</b> £269.08 inc VAT
<b>3. SOUND BLASTER 16 VALUE</b>	<b>£70</b> £82.25 inc VAT	<b>6. CREATIVE 563 CD ROM</b>	<b>£98</b> £115.15 inc VAT

## MULTI MEDIA 3

### TECHNOLOGY

- Dual Speed Multisession CD ROM MPC Compliant
  - 300 Kb / sec transfer rate - 64 Kb buffer rate memory
  - 16 - bit Stereo Soundcard
  - Stereo speakers
  - Multisession MPC compliant
  - COMPTONS INTERACTIVE ENCYCLOPEDIA
  - MEGA RACE
  - KINGS QUEST VI
- £149 + VAT**  
£175.08 inc VAT  
**FACTORY FITTED**
- £157 + VAT**  
£184.48 inc VAT  
**STAND ALONE PRICE**

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\* Trade in Deals are only available from Calculus Stores. Product must be complete and in full working order

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## OPTIONS

**ALL INDI PRODUCTS ARE DELIVERED FREE OF CHARGE**

**COMMERCIAL LEASING AND ACCOUNT TERMS AVAILABLE**

(SUBJECT TO STATUS)

**NO DEPOSIT, PAY NOTHING\*  
FOR 6 MONTHS**

**TRADE IN YOUR OLD PC/ GAMES COMPUTER  
(ONLY AVAILABLE FROM CALCULUS STORES)**

### CALIBRA NOTEBOOKS



The latest in the best selling Calibra range. The Calibra Swift DX2-66 is a top quality product complete with 12 months on - site warranty. With our irresistible BUY NOW PAY LATER deal this is an offer not to be missed. • 486 DX2-66 • 4Mb on board • Removable 250 Mb Hard Drive • PCMCIA type 3 x 1 • Built in Trackerball • 3.5" Floppy Drive • 128 Kb ROM, built in firmware: Bios / video / security / setup / power management • MS DOS 6.2 and Windows 3.11 • AC/DC adapter • Battery pack (operating time 2hrs / 3.5hrs with power management)

4Mb Memory Module

**£190** ex Vat £223.25 inc Vat

**486 DX 2 - 66**

**£899**  
£1056.33 inc VAT

486 DX2-66 Dual Scan  
Colour option available.

**£1349** £1585.08  
inc VAT

Calibra Notebooks Price while Stocks Last

### NEW Canon BJ-200ex

The NEW BJ-200ex has print speeds of over 3ppm, it incorporates and in built 'smoothing' function giving and effective resolution of upto 720 x 360 dpi! At the faster speeds of 204cps HQ, and 248cps HS. The BJ-200ex still maintains the whisper quiet operation of 42 dBA, and of course the built - in 100 x A4 automatic sheetfeeder.

**£199** +VAT  
£233.83 inc VAT

### Canon BJC-600

\* Windows compatible \* Fast print speeds for colour and black \* Separate CMYK ink tanks \* 8 resident typefaces, 20 truetype fonts \* Prints on various media \* 1 Year Warranty

**£352** +VAT  
£413.60 inc VAT

### Canon Bubblejet Printers

#### Canon BJC-4000 - COLOUR

\* Colour desktop bubble jet with Separate CMYK ink tanks \* 360 DPI, 720 with black only \* 248 cps HS, 173 CPS HQ, (BC-20 opt.) 496 CPS HS, 346HQ \* Prints on media \* Built in Sheetfeeder \* Windows compatible \* 8 standard typefaces \* 1 year Canon Warranty

**£299** +VAT  
£351.33 inc VAT

### NEC Printer

#### NEC PINWRITER P2Q

New to the Calculus Printer Range the NEC P2Q takes 24 pin dot matrix technology to its limit offering a real cost effective solution to the home or small office user  
\* Flexible paper handling, bottom fed continuous, multipart cut sheet and envelopes \* 16K print buffer \* 96 CPS in letter mode and a superfast 192 CPS in draft mode. \* < 48dBA acoustic noise \* Paper Parking \* Manual Feed slot \* 12 Months on Site Warranty

**£106.37** ex VAT  
£124.99 inc VAT

### Panasonic KX-P6100

#### LASER PRINTING

#### KX-P6100 6PPM GDI LASER PRINTER

Dedicated to the windows users  
\* 6PPM-GDI-Graphic device interface \* 300 x 600DPI using EET (edge enhancement technology) \* Prints first page faster \* Small footprint (5.2"W x 14.9"D x 11.3"H) \* Silent standby inc power save \* 1 Year On-Site Warranty

**£307**  
£360.73 inc VAT

### MICE

#### AM350 3-BUTTON SERIAL MOUSE

\* 3- Button Serial Mouse  
\* Mouse Driver and  
menumaker

**£17.50**  
£20.56 inc VAT

#### AM380 3 - BUTTON SERIAL MOUSE

\* 3- Button Serial Mouse \* Mouse Driver and menumaker \* Mouse Pocket and Mouse Pad \* 9 to 25 pin adapter  
Also includes Photostacker for limited period  
JPEG image compression and capturing  
software for Windows

**£22.50**  
£26.44 inc VAT

### SUPERFAST... DATA FAX MODEMS FROM £85

CHECK OUT THE SPECIFICATION OF OUR LATEST ADDITION YOU JUST WILL NOT BELIEVE YOUR EYES



**V.32bis**

\* V.32 bis/ V.17 Data/ Fax  
Modem Devices

**£85** ex VAT  
INTERNAL  
£99.88 inc Vat

\* 14,400 bps Data / Fax Connection Speed w/ Auto  
Fallback \* V.42 bis / MNP5, V.42 / MNP2 - 4  
Compression & Error Correction (Effective  
throughput upto 57.6 Kbps \* Enhanced Hayes AT  
Command Set & Class 2 Fax Command \* Data/ Fax  
Communications Software Package Included

**V.34 28,800 bps  
INTERNAL MODEMS**

\* Group 3 fax operation with class  
\* V42 error correction \* BABT approved  
\* Synch and Asynch operation  
\* Analog loopback, digital loopback,  
remote digital loopback  
\* Winfax lite/ DosFax Lite and CoMit Software  
COMPLETE WITH BT CABLE, MANUAL AND SOFTWARE

**185.00** £217 inc VAT



**V.32bis**

\* V.32 bis/ V.17 Data/ Fax  
PC Half Card Modem

**£96** ex VAT  
EXTERNAL  
£112.80 inc Vat

**MAIL ORDER SALES HOTLINE 01543 419999 Fax 01543 418079**

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## OPTIONS

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**ALL INDI PRODUCTS ARE DELIVERED FREE OF CHARGE**



### QUAD SPEED DRIVES - TOMORROWS TECHNOLOGY

With all major software publishers producing new generation games and software applications requiring a minimum 600Kb data transfer per second, a Quad Speed drive is a must.

#### QUAD SPEED CD ROM SPECIFICATION

- \* NEC CDR - 272 Quad Speed CD ROM Drive
- \* CAPACITY - 656 Mb (Max Mode I)
- \* DATA TRANSFER - 600 byte /sec (4x mode) - 150 byte /sec (1x mode)
- \* ACCESS TIME - 250ms (average)
- \* MTBF - 70,000hr
- \* INTERFACE - 40 - pin connector (Atapi protocol compatibility)
- \* COMPATIBILITY - High Sierra, ISO 9660, PhotoCD, Multisession, MPC Level 1, MPC Level 2, CD ROM XA, CD - DA, White book.

**£189**

£222.08 inc Vat

#### INCLUDES 8 CD ROM TITLES WORTH £374.92 RRP

WORLD CUP GOLF	£49.99	THE NEW DICTIONARY OF THE LIVING WORLD	£44.99
NOVASTORM	£44.99	VIRTUOSO	£39.99
ECSTASIA	£44.99	COMPTON'S 1995 INTERACTIVE ENCYCLOPEDIA	£69.99
ALL NEW WORLD OF LEMMINGS	£44.99	EXTRACTORS	£34.99

## Simply The Best

Technology moves on and there was a time when a "built - in" scan indicator was a real feature. Why? Because it told you when you were moving the scanner too fast. But of course it didn't prevent the missing lines. With our proprietary MLC system missing lines are always automatically detected - MLC guarantees increased scanning speed and a better image. But that's not all, handheld scanners are typically smaller than the scanned image so scanned images need to be "stitched" together - hardly userfriendly and not easy to do. Our Exclusive "Magic stitch" function solves the problem bringing original images into vivid life.

### VIEWSCAN 256 GREYSCALE SCANNER

- \* Line Art, halftone and greyscale 800 dpi (using software interpolation)
- \* Full 105 mm scanning width
- \* Scanning mode selected by hardware
- \* SPI & Twain compatible
- \* Installation software scantool
- \* Exclusive MLC (Missing Line Compensation) and magic stitch technology

**PLUS photostacker:** JPEG Image compression  
\* Image editing  
\* Special Image Effects  
\* Image Transform  
\* Painting & Drawing  
\* GO-CR OCR - Omnifont optical recognition software

**£69.00** £81.08inc VAT

### VIEW STATION A4 FLATBED SCANNER

A superb 1200 dpi / 2400 dpi through interpolation system at a price taking full advantage of our bulk buying skills

- \* Scanning area - 8.5" x 14"
- \* Intelligent LCD panel status display
- \* SCSI II interface
- \* Line Art and 24 bit true colour (16.8 million colours)
- \* Long lasting cold cathode fluorescent lamp

**£439**

£515.87inc VAT



### VIEWSCAN 24 BIT COLOUR SCANNER

- \* All of the features of our greyscale scanner
- plus** 16 million colour, colour scanning in true RGB 24 bit colour
- \* Scanning mode selected by software

#### Photostacker plus:

- \* JPEG Image compression
- \* Image editing
- \* Special Image Effects
- \* Image Transform
- \* Painting & Drawing
- \* GO-CR OCR - Omnifont optical recognition software

**£138**

£162.15inc VAT

## BYTE Editors Choice

#### PLUS

**PHOTOSTACKER:** JPEG Image compression \* Image editing \* Special Image Effects  
\* Image Transform  
\* Painting & Drawing \* GO-CR OCR - Omnifont optical recognition software  
**MEDIA HOUSE:** Media House is a real office automation system that turns your computer into a paperless document manager. It supports AVI, MIDI, WAVE, KODAK PHOTO CD, TIFF, BMP, TGA, PCX, JPEG, FLI and other popular file formats

### PAYMENT OPTIONS

#### Option 1

BUY TODAY FROM EITHER INDI OR CALCULUS. PAY BY CHEQUE OR CREDIT CARD

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CHOOSE OUR 0% 6 MONTHLY PAYMENT OPTION OR NO DEPOSIT, NOTHING TO PAY FOR 6 MONTHS. \* 6 TO 36 MONTH REPAYMENT DEAL

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Prices are subject to change without prior notice.

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PRODUCTS PURCHASED:

1. ....
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4. ....
5. ....

#### EXCLUSIVE READER OFFER

TO OBTAIN INDI PRICES FROM A CALCULUS STORE YOU MUST BRING A COPY OF THIS ADVERT  
CALCULUS STORES MAY NOT CARRY THE FULL INDI RANGE. PHONE TO AVOID DISAPPOINTMENT

**MAIL ORDER SALES HOTLINE 01543 419999 FAX 01543 418079**





# HIT parade

*This month's charts are presented by Lance wearing his normal everyday clothes. In fact it's a very normal collection of charts all round. What has gone wrong?*

## FULL PRICE

1	Sim City 2000	Mindscape
2	Indy Car Racing	Virgin
3	Premier Manager 3	Gremlin Interactive
4	Fifa International Soccer	Electronic Arts
5	Tie Fighter: Defender of the Empire	Virgin
6	Doom II	Virgin
7	Cannon Fodder 2	Virgin
8	Frontier Elite 2	Gametek
9	Nascar	Virgin
10	The Lion King	Virgin

## CD-ROM

1	Microcosm	Psygnosis
2	Reunion	Grandslam
3	Innocent Until Caught	Psygnosis
4	Wing Commander 3	Electronic Arts
5	Creature Shock	Virgin
6	Magic Carpet	Bullfrog
7	Doom II	Virgin
8	Theme Park	Bullfrog
9	Premier Manager 3	Gremlin
10	PGA Tour Golf 486	Electronic Arts

## BUDGET

1	Bram Stoker's Dracula	Psygnosis
2	Soccer Kid	Krisalis
3	Winter Olympics	US Gold
4	Theatre of Death	Psygnosis
5	Cartoon Maker	Gametek
6	Armour Geddon	Psygnosis
7	Archer Maclean's Pool	Hit Squad
8	Hired Guns	Psygnosis
9	The Hand of Fate	Virgin
10	Mortal Kombat	Virgin

# Welcome to the GAMES

## FEATURES

### 99 Jez San Interview

Argonaut recently hit it big with Creature Shock. Pete Hawley has a chat with their boss man about a young lady called BRender

### 102 Under Development

Elite Two and a Bit, Tank Commander and Slipstream 5000 are the budding young starlets. Lance Concannon is the caffeine dependent casting director

### 104 Mission Impossible

Want to breath new life into Sim City 2000 and Tie Fighter? No problem at all - we take a butchers at some add on disks

### 111 Front Lines

Pete Hawley is a workshy layabout with no sense of duty or discipline. There's no way he'd ever get into the real army so he just plays lots of wargames instead

### 112 X-Com: Terror from the Deep

They're ugly as hell with attitudes badder than a drug-crazed rotweiler. But there's no time to discuss the staff writers' problems, the aliens are coming - again - to take over the Earth

### 114 Cyclones

Lance Concannon gets 90 per cent of his bodily parts replaced with robotic implants, but he somehow managed to type out this review with the remaining 10 per cent

### 116 Big Red Adventure

Rob Smith ventures into the new capitalist realm of post-communist Russia, in Core Design's first big adventure for the PC

## REVIEWS

### 106 Lost Eden

Darren Allen tries to make friends with a bunch of talking dinosaurs. We told him not too eat those dodgy looking mushrooms, but would he listen?

### 108 Bureau 13

Ghostbusters fan Will Sargent takes charge of a group of special agents to investigate paranormal phenomena





# arena



## 117 Premier Manager 3

Duncan Evans dons tracksuit and trainers to manage his own football team – at the end of the day it's a game of too many cliché's and not enough action

## 118 Pinball Fantasy Deluxe

Lance Concannon didn't have a mis-spent childhood pumping coins into pinball tables, which is probably why we can't tear him away from this

## 120 Ticonderoga

Rob Smith takes command of a big American battleship and roams the oceans of the world dispensing justice and wisdom to lesser nations

## 122 Psycho Pinball

Yoinks!! Two pinball games reviewed in the same issue, now that's what we call value for money. Time for a gag about steel balls we think

## 123 Superfrog

At the first hint of trouble Andy Shaw ducks into a convenient pond and transforms into a little green amphibian with the ability to leap tall buildings

## 126 Heretic guide

Having problems with your potions? Hard time with your Hellstaff? Gauntlets giving grief? Fear not for the Pumpmeister is here

## BC Racers v Superkarts

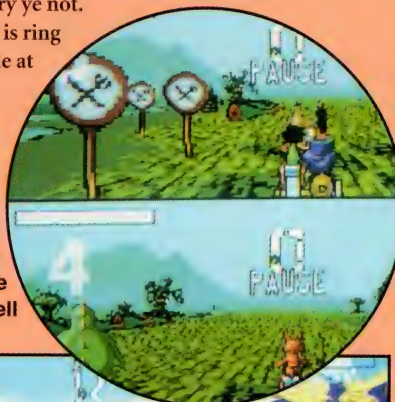
**124** Everyone's talking about racey games this month – Superkarts and BC Racers are both pretty hot property. Wooden wheels and clubs or screaming two-stroke go-karts, which is fabbest?

We could use some naff metaphor about lining them up on the starting grid and taking them for a test drive.

However, this would be both unoriginal and sad. So instead we'll just tell you to flip over to page 124 where you'll find out which of these two corkers you should splash your cash on first. If you missed last month's playable demos of these corkers, worry ye not.

All you have to do is ring the fabulous people at our back issues department.

BC Racers:  
Club your  
opponents to  
death – take  
note Mr Mansell



SuperKarts: Two-player action without high phone bills

For each title we let you know who publishes it and the cost

Will your PC run the software? How much disk space does it need? Find out here

We list some other games of the same genre, whether they were reviewed in PCH and how much they scored

How the game scores in the categories that really matter

Here we give the bottom line on the game. Truly awesome ones will be granted the coveted PC HOME HIT award, but only the best attain this accolade

## LOST EDEN

Publisher	Virgin
Telephone	0181-960 2255
Price	£34.99
Format	CD-Rom

## REQUIREMENTS

PC	486 25MHz
Total memory	4Mb
Sound support	SoundBlaster and compatibles
Control	Mouse
Hard drive	Negligible

## ALTERNATIVELY

Dune	Budget label
	Not reviewed
Verdict N/A	Even by today's standards this is still pretty gripping stuff, especially at the budget price

## RATINGS

GRAPHICS	★★★★★
SOUND	★★★★★
LONGEVITY	★★★★★
GAMEPLAY	★★★★★

## PC home VERDICT

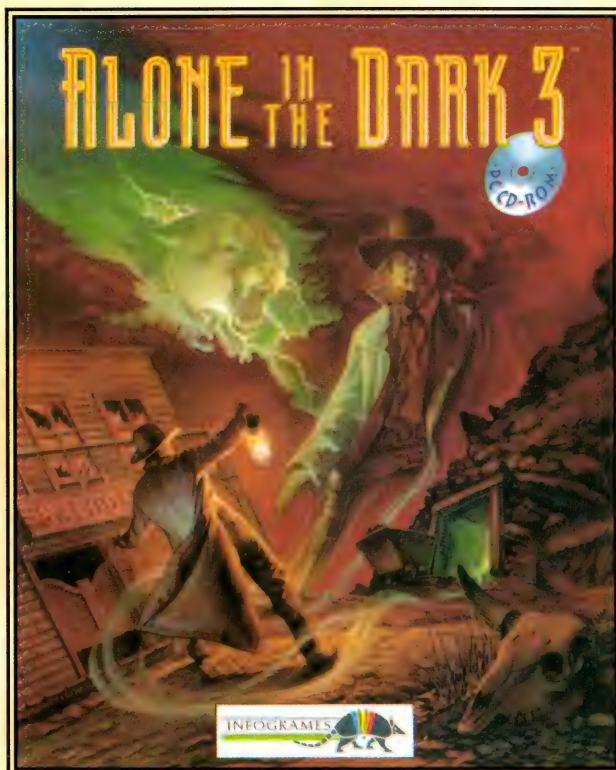
"A highly absorbing and entertaining adventure/strategy romp"

85%





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**"PC GAMER 90%  
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# Argonaut infonaut

This obviously wasn't the best way to ➡



⇒ design a game but based on the medium we had to do it that way.

**PCH:** Throughout the various scenes of *Creature Shock* there is a definite element of surprise as the numerous beasts leap out of wall compartments and pits in the ground. Did it take time to achieve these effects?

**Jez:** Yes, that's exactly what we wanted – creatures that were convincing. So they had to be animated very well, a bit scary at times and a little unexpected and we had

*At times it seemed as if the situations you found yourself in and the creatures reactions were almost responding to your movements rather than just following a rendered path?*

**Jez:** Because of AVC we were able to break up all the scenes into tiny fragments of less than a second each. Every swipe or roar the creatures make are all tiny fragments. We are able to control how the creatures react to a very fine level even though it's really playing a movie made up of thousands of smaller sections.

**PCH:** Was that a conscious thing to keep it away from the criticisms of rendered games where the player follows one strict path?

**Jez:** Yeah, there isn't enough playing time in a game if there is only one path to follow. Even if you have a twin CD product, if there is only one path through and there

much involvement is dependant on the time of day and how busy I am. But I definitely love playing games and I like to keep active.

As the business side of Argonaut grows my time is taken more and more. Did you know we are now a company of 100 people?

**PCH:** Is your success due to the FX chip in any major way?

**Jez:** Oh yes, that was a big success for us and it played a large part in our growth. But we also have a lot of other projects on the go.

**PCH:** Do you have anything similar planned for the PC, regarding 3-D technology, or other platforms?

**Jez:** Yes, BRender our new 3-D technology is currently being used to develop FX fighter on the PC. There will also be a

good systems and they are quite cheap compared to a PC price but they don't do everything a PC does. They don't have keyboards, or wordprocessors and people buy the PC for a number of different reasons.

Not everyone buys it to play games. They buy it to do lots of things and playing games is one of the things it does very well. It's a great compromise.

The PC benefits from the crisp picture quality and high resolutions displayed on a monitor while consoles rely on the TV. Plus the age difference is a lot wider. The console owner is normally aged between 10 and 20 while the average PC owner is between 25 and 40.

**PCH:** So if the PC age range is greater than that of the consoles do you think it is a good idea to rate the games via the BBFC like the movie business?

**Jez:** I think ratings are probably a good idea because at least the people who are not in the know will see what they are buying. As long as things do not move towards censorship I think it's OK. Censorship is not a good thing and games should be allowed to contain as much sex and violence as the creators want as long as the box and packaging is clearly marked.

It's the same as videos. Parents need to implement parental control and closely watch the content of the software the kids are buying and playing!

**PCH:** So just to wrap up, will Argonaut be using the *Creature Shock* engine again before you dedicate development time to BRender?

**Jez:** The engine is being enhanced as we speak and there are plans to use the system again. We are now doing some pretty stunning things with the new version. Although *Creature Shock* is visually stunning and the gameplay is reasonable, we are still frustrated by the space limitations to supply the amount of variety we required even with a two CD product.

So the next step is to produce some of the next game in real time and some of it pre-rendered and merge the two – a hybrid. We're working on using BRendered aliens and creatures in the foreground, and in the background there will be lavish environments and animation.

This process will liberate us even more from the limitations of the CD format. It lets the CDs be used for atmosphere and the CPU is being used for the gameplay and characters.

We had to go through that *Creature Shock* learning curve. It pushed the technology, the CD light was on the whole time, so the next stage is to incorporate the power of the CPU at the same time to create the perfect hybrid. **PCH**

Super Nintendo version due for simultaneous release.

**PCH:** Is it similar in style to Sega's *Virtua Fighter*?

**Jez:** Well it's a 3-D polygon fighting game so yes, it is very heavily influenced by *Virtua Fighter* and other fighting games. It is very similar in appearance to VF but relates more to the playability of *Street Fighter*. We did a poll of people who adore fighting games and although *Virtua Fighter* is technically amazing, people prefer the game play of *Street Fighter*.

We are currently working with the guys from Nintendo who were responsible for *Killer Instinct* so the gameplay aspect is being refined all the time during development.

**PCH:** As the UK prepares for the launch of the new super consoles from Sony, Sega and Nintendo do you think the PC is well equipped to the extent that it will be able to compete on the same grounds as these polygon handling dream machines?

**Jez:** Yeah, because the PSX and Saturn are

was only a win path or not, that would only give the player around two hours maximum gameplay, which is not enough.

Not only do our monsters have lots of different fragments of movies that we plug together in unique ways, but also the entire map of the world is built up like a Scalextric set. So whenever we needed to take a left turn on the map we inserted a left turn piece. We were able to build up a very large map using a number of key movie sections and places.

**PCH:** Do you still get involved on the programming side of the games in a major way?

**Jez:** Not as much as I'd like to. I love programming and I really would still like to do a lot of the games but I can't find the time in a day now I do all the business stuff. But I do like to keep my oar in.

**PCH:** So do you have a lot more to do with the overall production of the software?

**Jez:** Yeah, I like to stay involved but how

to include the element of shock and surprise as they leapt out of doorways and into view from somewhere off screen.

We wanted to capture some of the elements that movies are able to provide – suspension of disbelief and shock and surprise. We can't profess to be movie directors or producers but we wanted to capture more than just a game.

It had to be visually stunning and still play on your emotions a bit. I think we did achieve that. There were some criticisms, such as the space shoot-'em-up section was weak by comparison to the walk around motion video section.

It's a shame, it was an experiment, we thought it would work, turns out we're being criticised for it now. People have said: "If you'd cut out level one we would have preferred the rest of the game as it was".

**PCH:** Were there any particular movie inspirations included in the game. If so, which?

**Jez:** Every game we have ever done has been influenced in some way by other movies or other things we've seen. For example the ship in *Creature Shock* is very flat and very wide which is reminiscent of the Millennium Falcon.

**PCH:** What was different about *Creature Shock* in the way the scenes were rendered.

"It had to be visually stunning and still play on your emotions a bit"



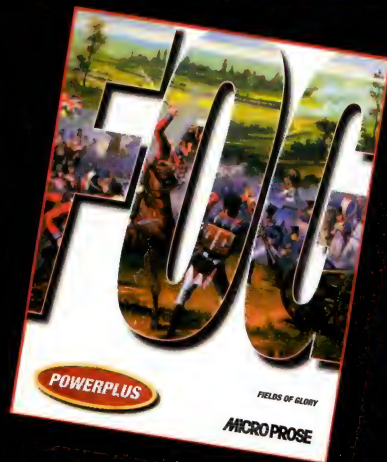
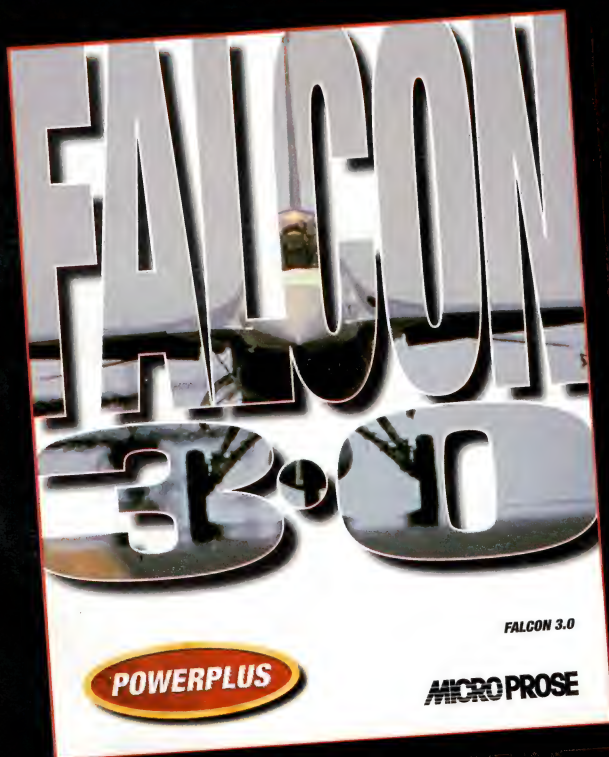


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# UNDER DEVELOPMENT

# SLIPSTREAM

**Lance Concannon sneaks a peak at three games on the production line**

**E**VER fancied climbing inside a kind of futuristic hoverjet thingy and zapping around some of the world's most famous landmarks such as the Black Forest or the Grand Canyon at over 300 miles per hour? No, me neither until the nice bloke from Gremlin came into the *PC Home* office flashing a preview copy of Slipstream 5000.

Sporting some of the grooviest landscape graphics you're likely to see over the next year, it looks set to become one of 1995's chart toppers.

The general theme of things is to race around one of 10 tracks in your space-aged hovercraft shooting the stuffing out of your competitors. Sound familiar? It should do, this premise was shared by the ever-so-average CyberRace which Cyberdreams unleashed upon the ungrateful world sometime last year.

If first impressions are anything to go by Slipstream should hit the shelves with slightly more impact. Anyway, enough fawning, take a look at these screenshots and draw your own conclusions.



Yo! Biker dude, respect due, ride free bro' (I assume this is meant to mean something Lance - Ed)



More of that marvellous scenery we talked about earlier, just look at that foliage



The two-player option means you and a friend can play together, which is quite handy for people who have friends



Hurrah! Tower Bridge – my personal favourite example of great British architecture



Note how the scenery tilts while the hoverthing stays level. Apparently this helps to produce a much more exciting cinematic effect



# FRONTIER: 1ST ENCOUNTERS

REMEMBER Elite? Smart wasn't it? Shame about Frontier: Elite 2 though – probably the most disappointing sequel mankind will ever know.

Having accepted that Frontier wasn't as great as most reviewers said it was, Gametek have set about producing 1st Encounters. This sequel to the sequel is basically a rehashed version of Frontier which addresses all of the criticisms levelled at it.

The most important area of improvement is in the ship-to-ship combat, a feature sadly lacking in Frontier.

As well as allowing multiple ship skirmishes, the control system has been improved, hopefully to make combat as much fun as it was in Elite.

As in the original the ultimate aim is to reach the status of Elite, build up the meanest spaceship you can afford and make absolutely bucketloads of money.

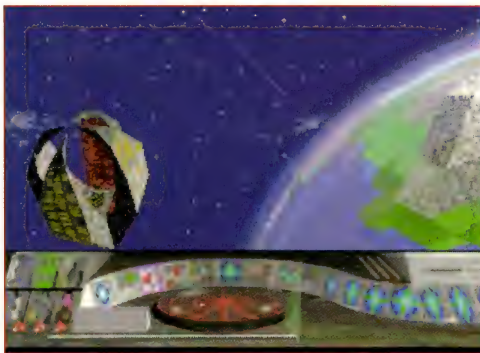
Fans of the original will be glad to hear that the dastardly Thargoids have returned to make life difficult. In order to offer some form of plot to those who like that sort of thing, missions against the Thargoids will be avail-

able should you wish to undertake them. Thirty new ships with longer ranges have been added to the original selection as well as a whole pile of extra bolt on parts. In addition to major improvements to the overall game design, the graphics system has been completely revamped to offer much more realistic planet surfaces.

If Gametek have truly seen the error of their ways, 1st Encounters promises to be a more than worthy successor to one of the most original and entertaining computer games of all time.



Here's a nice picture of a space station. Much better than those horrid lumps in Elite



And here's another space station. Docking will be just as much fun as before



The graphics on planet surfaces are supposed to be vastly improved over Frontier

# TANK COMMANDER

THERE hasn't been a decent tank game since Microprose did the classic M1 Tank Platoon all those years ago. Nothing else has even come close in my opinion. All that could be about to change with the imminent release of Tank Commander from Domark.

Despite placing the emphasis squarely on fun rather than accurate simulation TC looks set to be an instant hit thanks to its slick 3-D textured landscapes.

Players will have a platoon of four tanks at their disposal to do with as they will. The game will feature over 40 missions set in a variety of scenarios including deserts, cities and rural vil-

lages. TC will allow armchair warmongers to send a reconnaissance helicopter over the enemy's positions to size up the situation and decide upon the best way of viciously massacring them all.

Jumping straight on to the increasingly popular multiplayer bandwagon Domark have included a network option which supports up to 16 players.

However, Tank Commander's most outstanding feature is that players are able to run over enemy soldiers which scream in agony before making a disgusting squelchy noise and spurting blood every where. I can hardly wait.





# Sim City Urban Renewal Kit

**B**ACK in the 1960s and 1970s lots of otherwise intelligent people decided that instead of housing people in two storey terraced slum houses along traditional streets, a new form of living should arise that reflect modern modes.

So they bulldozed mile after mile of these terraces, which were dismissed as slums and replaced them with huge tower blocks. Taking the visual cues from a mad bugger of an architect called Le Corbusier, these miniature radiant cities soon became today's version of unacceptable housing.

## Reviewed by Martin Gittins

Sim City 2000 Urban Renewal Kit puts you firmly into the chair of the crazed megalomaniac with the ego to match. Replace the quaint streets and houses of Sim City with towering edifices to your might and worth.

SCURK is essentially a painting program whereby the various buildings types from SC2000 can be modified or replaced with your own abhorrent creations. You can

even import PCXs to turn them into buildings. Although SC2000 presents a 3-D isometric view, the buildings themselves are 2-D images – so you are working with pixels rather than arranging forms. But apart from that, SCURK is a blast of fun and should satisfy even the largest ego. But designing all the buildings for a whole city in your own personal idiom takes ages. Le Corbusier would have loved this product. **PCH**



Update the city sets with your modified buildings



Your glorious new city comes to life

## SIM CITY 2000 URBAN RENEWAL KIT

Price	£19.95
Supplier	Maxis
Telephone	0171-490 2333
Format	Floppy

### REQUIREMENTS

PC	386 25MHz
Total memory	4Mb
Sound support	AdLib, Roland, PAS, SoundBlaster
Control	Mouse
Hard drive	4Mb

**PC home**  
**VERDICT**  
**80%**

# Defender of the Empire

**O**K, let's keep this short and sweet. This is a mission disk. It's an add on to a classic Star Wars simulation from Lucasarts called Tie Fighter. Climb aboard the various death vessels of the empire and kick the rebel scum from the galaxy.

There are two extra missions: An enhanced AI level for your opponents and plenty of variety to keep all Vader fans happy for another couple of weeks before the next quality Star Wars game emerges from the Lucas stable. If you haven't got the original you can't play it and if you have then go out and buy it now!

## New fighter

MANY of the new missions see you piloting the Advanced Tie which usually means your games will last a little longer because you're armed up to the eyeballs.

Lucasarts have impressed us again with their dedication to the Star Wars lovers among us and have obviously spent some time on developing the game's intelligence level in combat and as a result Defender of the Empire is noticeably harder to complete. **PCH**

## Reviewed by Pete Hawley



Die you traitorous swine. Backstabbing empire wollers must also pay the price

Swoop low over docking stations and try to figure out which one is friend and which is foe



## DEFENDER OF THE EMPIRE

Publisher	Virgin Interactive Entertainment
Telephone	0181-960 2255
Price	£19.95
Format	Floppy

### REQUIREMENTS

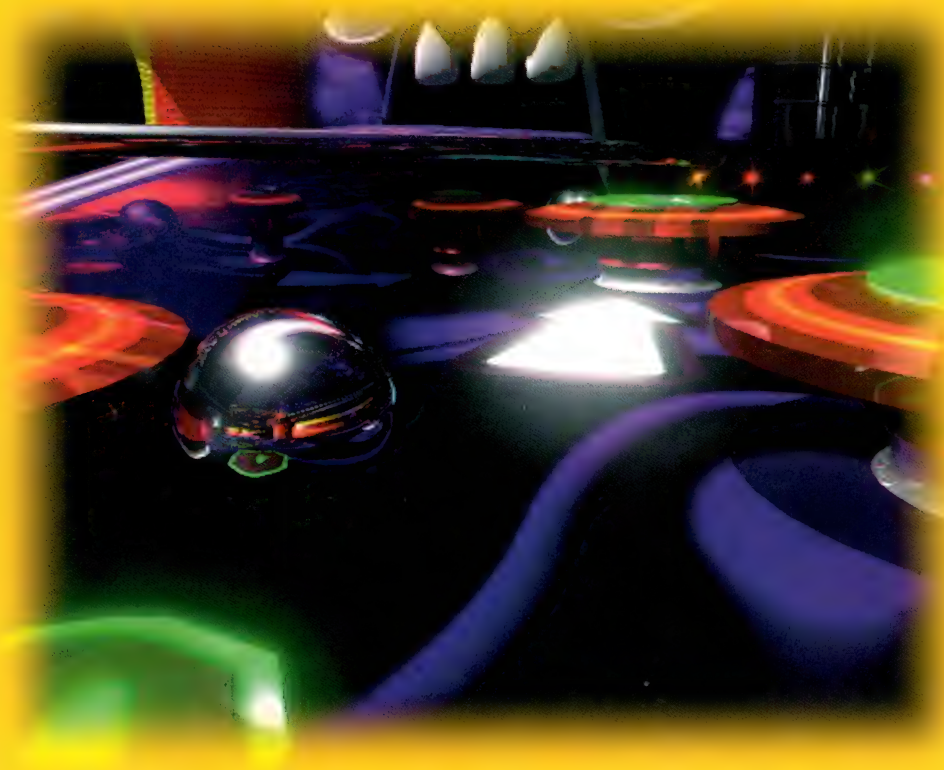
PC	386
Total memory	4Mb
Sound support	SBlaster, G-Midi, Roland, GUS
Control	Keyboard, Mouse, Joystick
Hard drive	4Mb Extra

**PC home**  
**VERDICT**  
**88%**



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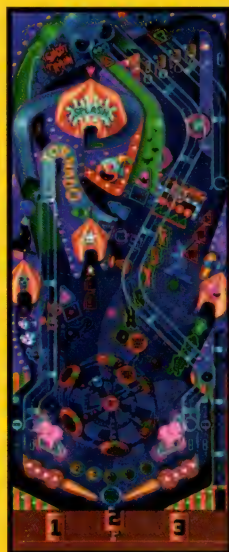


**O**kay, **speed freaks**, try holding onto your stomach when your reflexes attempt to keep up with this non-stop, head - screaming ride of pure pinball adrenaline. This is **PSYCHO PINBALL**, so called 'cos it's bleedin' **PSYCHOTIC**. Get this inside y': Four all-new mind-blowing

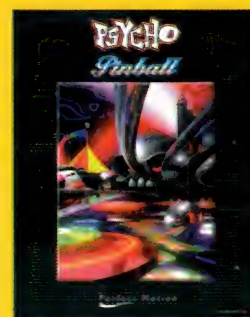
tables with over **100 features** in each, rocking music, speech, 220+ real-play sound fx and - no slow down - 3-ball m-m-m- **multi ball**. AND we've done the whole thing with **interactive vector reflection** so, for once, you get a pinball game that actually feels RIGHT. Just don't blame us if you can't hack the **pace**.



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**F**RENCH game designers Cryo have come up with a few weird and wacky ideas in their time. For instance, the game of the film of the book, *Dune*. It almost matched David Lynch in terms of surreality, abounding as it did with strange characters, weird music and

the omnipresent spice – you remember, the stuff that turned your eyes blue, and granted gifts of clairvoyance and precognition to the user. Either that or some damn fine hallucinations!

They're back in force, this time with a Jurassic Park-like yarn. The basic plot is that

humans and dinosaurs (who have evolved into intelligent beings) have co-existed peacefully on Earth – an Eden-like Earth.

Unfortunately, at the start of the game Earth is hit by an asteroid, knocked out of orbit and lost – hence the title. Your job is to travel to the core of the planet, find the

cosmic steering wheel, do the galactic equivalent of a handbrake turn and slot the errant planet back into a smooth orbit.

Actually, it isn't. To dally with reality for a moment, you play the part of Adam, son of the King of Eden. All was well with the world until a particularly vicious Tyrannosaur by the name of Moorkus Rex massed an army of equally bad tempered followers, and preceded to wreak havoc, slaughtering humans and the peaceful dinosaurs alike.

### Crumble

**EVEN** the huge citadels which the dinosaurs helped the humans build crumbled under Rex's might. All except one – there's always one, after all. The king's citadel still stands at the start of the game, but as you can imagine he's a bit paranoid and generally uncertain about the outside world.

He certainly won't let you – the only member of his family left – out there. Not until you persuade him, of course, because it is your destiny to discover the secrets of the citadels and lead a fight back against the tyranny of Moorkus Rex.

This is what the game is all about. Initially, it's very like an adventure, and your quest is to find the secret behind the construction of the citadels which has been lost in the mists of time.

Then you can start building them again, and massing your own army. In the later stages, *Lost Eden* becomes more like a strategy game, but on the whole it's pretty much a hybrid between the two. Just like



# Lost Eden

Reviewed by  
Darren Allan



Go visit the wizard for a dose of enlightenment or two



This is the king – nice ZZ Top style beard mate!



Some of the visuals in *Lost Eden* are simply breathtaking





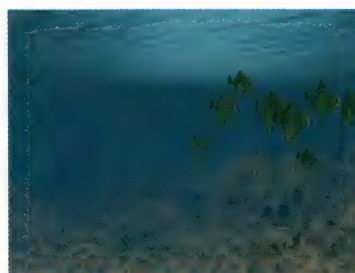
Venturing forth from the citadel, this is your first glimpse of the icy wastes that surround it



Moorkus Rex – not a very nice bloke by all accounts



Lush, rolling hills dominate the landscape of Shalamar



If re-taking the world gets too much, take time out to go for a swim

Dune was – those who have experienced it will feel some serious attacks of *déjà-vu*.

Not only is the blend of gameplay fairly similar, but the visual design is very similar, from the close up faces of the characters to the blatantly identical manner in which the program uses a pixellated fade between certain events. Exactly as it was in Dune.

## Stunning

However, the graphics are considerably better on the whole, as you would expect. The intro, to take an obvious example is just stunning. These are some of the flashiest visuals I've ever seen in a game – pterodactyl type dinosaurs swooping down low above undulating valleys and lush green hills, with the sun glinting into the camera, as it were. To say that this intro was of a high quality would be a massive understatement.

In the game itself, there are still plenty of thoroughly impressive scenes rivaling this quality. The price for this, of course, is that your movement is restricted. You can, for example go forwards, but this is depicted in a (usually) somewhat lengthy pre-rendered animation which may give some a slightly false feeling – I must admit it didn't particularly bother me. Further into the game, however, moving between locations takes a more traditional form, simply flicking between locations.

What's also very reminiscent of Dune is

the music. It's weird, to say the least – a sort of mix of tribal and ambient stuff. Very relaxing, mind you, and personally I thought it was excellent.

So, it looks very nice and sounds superb, but the really important question is – does it play well? And the answer, as with many things, is yes and no.

On the positive side, Lost Eden has a good learning curve. Progress is quite easy to make in the early stages, but matters toughen up suitably further on. The puzzles in the adventure bits are logical – well, the majority of them – and the later strategic considerations are a good test of tactical mettle.

The whole experience is definitely enhanced by the impressive graphics and atmospheric sound. However, there is a

prevailing feeling of linearity, just as there was in Dune. A fairly set pattern has to be followed at the beginning, but matters broaden considerably the further you get into it.

On the whole, I was pretty impressed with Lost Eden. It isn't a perfect game by any means, and some may well think that it's just downright weird, but I liked it. If the gameplay was a little more free flowing it could well have been a classic.

But the elements of linearity are somewhat reinforced by the use of long, pre-rendered scenes over which you have no control. Lost Eden may not be brilliant – it has its flaws – but in the end it's entertaining and absorbing stuff. **PCH**



Enlist the help of the Brontosaurus to rebuild the citadels



## LOST EDEN

Publisher	Virgin
Telephone	0181-960 2255
Price	£34.99
Format	CD-Rom

## REQUIREMENTS

PC	486 25MHz
Total memory	4Mb
Sound support	SoundBlaster and compatibles
Control	Mouse
Hard drive	Negligible

## ALTERNATIVELY

Dune	Budget label
Verdict N/A	Not reviewed
	Even by today's standards this is still pretty gripping stuff, especially at the budget price

## RATINGS

GRAPHICS	★★★★★
SOUND	★★★★★
LONGEVITY	★★★★★
GAMEPLAY	★★★★★

## PC home VERDICT

“A highly absorbing and entertaining adventure/strategy romp in the Dune mould”

85%





# Bureau 13

**Reviewed by Will Sargent**

**B**UREAU 13: Stalking the Night Fantastic is a pen and paper role-playing game. Like Space Hulk, the original idea has been transformed into a more accessible computer game format, due to both its popularity in role-playing circles and suitability for the small-screen.

Dice and notebook have been replaced with an isometric 3-D graphical display, leaving only the plot, which remains untouched.

The story tells of a secret government task force who work under the code-name

Bureau 13. This secretive group's forte is the investigation of extraterrestrial and paranormal phenomena.

Working nights only, the team of government-led ghostbusters while away the hours bagging psychics, aliens, mutants and sorcerers, following tip-offs from old ladies, tramps and photographs of hovering plant-pots from those TV specials about the strange and unknown.

This new, digitised version of B13 concentrates on one big and twisting story, in which you, as a B13 agent, must track a

person who is believed to have some sort of connection with B13 operations.

You don't get many clues to work from, just some sightings, following the attempted murder of a sheriff in a small town called Stratusburg.

Already, the small amount of evidence accompanying this apparently unprovoked outburst points to a rogue B13 agent, thus endangering the anonymity of the Bureau 13 outfit altogether.

It's up to you to find this character and prevent him from making public any

knowledge of his old employer.

Those of you who can only face an RPG that offers a magical land inhabited by pixies, trolls and orcs will have to put your leather shields and broadswords back into the cupboard under the stairs because B13 is set in modern times.

From a collection of six spook-specialists, you can choose two for the task. The team characters include a computer hacker, vampire, priest, witch or robot woman – actually, her real name is Delilah Littlepanther but robot woman suits her appearance better.

She's a bikini-clad cyborg who stomps around the streets, seducing unsuspecting perps and then smashing them in the chops with her large, chrome fist.

## Talent

EACH character has a specialist ability that might come in useful during the quest. For example, the vampire can turn into mist, enabling him to waft under locked doors, then return to a physical state and snoop around a location. Some doors are sealed so tight, though, that even the vampire cannot pass through and this is where you might find the lock-picker, Jimmy Suttle of use.

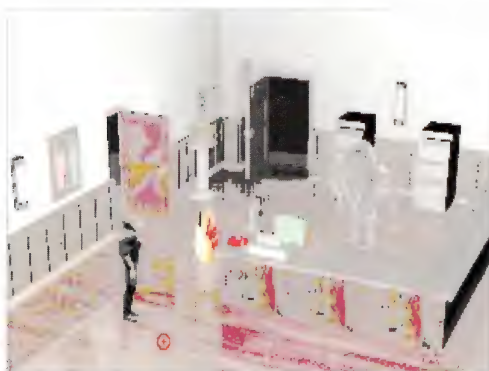
Other unique skills include the code-cracking ability of the hacker, a collection of useful spells from the witch and just in case you stumble across any young girls with a gruff voice, fetching bright-green vomit over their bedroom walls, you could call upon the exorcism skills of the priest.

The trick is to create a partnership with complementary skills. One hard-knock and another with some grey matter is probably a good first bet.

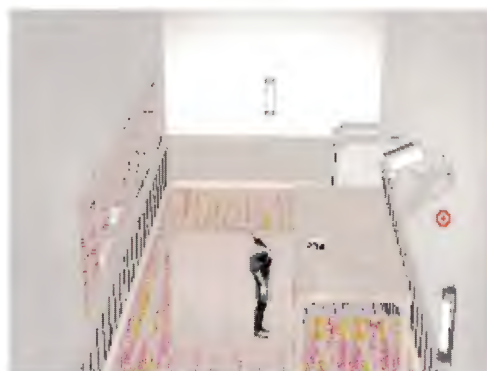
Into the game, your two chosen investigators are represented by large, animated sprites. You control them with the mouse, switching from one to the other, shuffling them around a location, Monkey Island-style.

In fact, the look and feel of this game borrows more from the CD version of Beneath a Steel Sky. The backdrops have a natural, hand-painted look and interaction with other actors is represented by voice-over dialogue, fed in real-time from the disc.

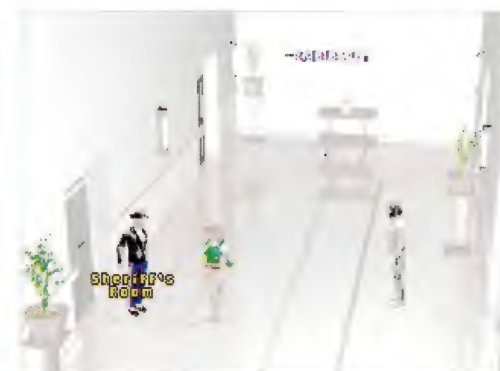
Unfortunately, the speech aspect is let



You need to find a way of distracting the police officer to allow a little snooping of the evidence room. Igniting the basket seems to work okay



Unfortunately, once inside the evidence room I was unable to pick anything up because of the video camera. Where are those wire-cutters?



This jobsworth security guard will not let you interview the sheriff. He's recovering from an unfriendly letter bomb, but who sent it?



## NOW YOU SEE ME, NOW YOU DON'T



Puff! The vampire turns to mist...



...and drifts past the courier receptionist, unnoticed



Into the back-room, the vampire changes back to his former self



The hacker looks politely away, as the witch casts another unsuccessful spell

down somewhat, with a collection of utterly unconvincing accents and corny one-liners. Put it this way: Tom Cruise did a better job of an Irish accent in *Far and Away* than the ear-grinding efforts featured here.

## New style

CREDIT to Take 2, the game's developers. They have come up with a new idea, merging the individual character skills of an RPG with the click-and-grope adventure style we have now seen used many, many times.

I found myself in a number of no-go situations, having played the game for only an hour or so. Remembering the unique abilities of each character, I experimented with a few different partnerships and progressed a little further each time.

Switching the priest for robot woman worked a treat. She stomped up and down

the streets, smashing open any locked door I chose to set her upon, giving me loads more objects with which to interact.

Character selection is mostly a case of experimentation and getting by with two that will solve the more important problems.

To succeed in the quest, though, you will need to take one female and one male: Try as I might, I could not persuade the ladies changing room attendant to let any of the male characters in for a peep.

Fortunately, many of the game's teasers can be solved in a number of ways, which doesn't burden you with guaranteed failure if the wrong pair have been chosen from the start.

If you soon tire of the click-and-wander style of adventure game, and the procedural approach of trawling the mouse pointer around each detailed room in the vague hope of finding a minute pixel-sized

object hidden in a bookshelf, you're wasting time even reading this review.

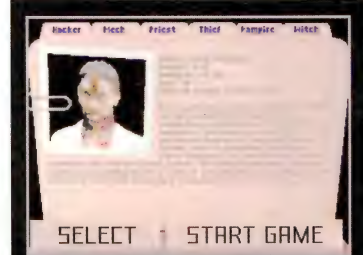
A few new ideas have been stitched into the game framework but this still isn't enough to drag it into a commendable, ground-breaking genre.

Personally, I do have the patience to be able to enjoy this type of game. I think it stems from being such a huge fan of the early stuff, especially *Monkey Island*.

If you can sit happily, using a stick with every other game object in sight until you eventually find an obscure hole in the wall that opens up a new location, then *Bureau 13* will be worth a look.

If you haven't seen *Beneath A Steel Sky* I would probably advise you to play that first though.

Oh, and if you haven't played *Monkey Island*, which is now available on budget, play that before BSS. Oh, and then there's *King's Quest*, *Leisure Suit Larry*.... **PCR**



## BUREAU 13

Publisher GameTek  
Telephone 0753 553445  
Price £39.99  
Format CD

## REQUIREMENTS

PC 386 33MHz  
Total memory 2Mb  
Sound support 8-bit SoundBlaster compatible  
Control Mouse only  
Hard drive 13Mb

## ALTERNATIVELY

*Beaneath a Steel Sky*  
Virgin  
Reviewed Aug '94  
88%  
CD-based, click and grope classic  
*Discworld*  
Psygnosis  
Reviewed Mar '95  
91%  
Gorgeous characters, Pratchett humour

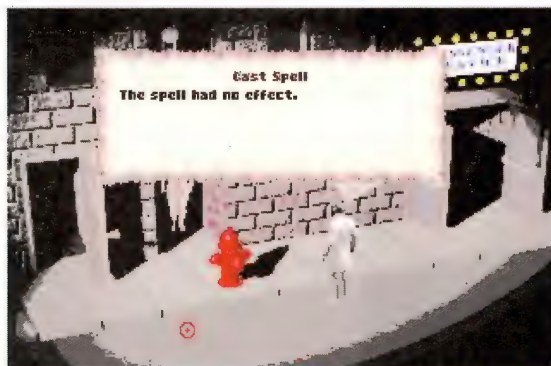
## RATINGS

GRAPHICS ★★★★★  
SOUND ★★★★★  
LONGEVITY ★★★★★  
GAMEPLAY ★★★★★

## PC home VERDICT

"A novel marriage of two gaming styles, marred by a dodgy interface"

# 73%



Each character has a unique skill. The witch has an assortment of spells to hand. I've tried to cast a light spell here. Zap! Damn, no effect



It's possible to split your team of two and have them wander separate locations. Here I have left the vampire outside the gym. Ladies only y'see



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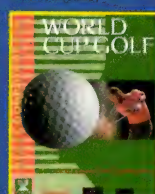
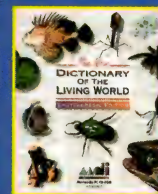
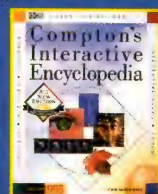
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It's killing time again. Big guns, hover tanks, tech troops and more futuristic, high-tech weaponry than you can shake a stick at. Following on in that great tradition of wargaming on the PC, Impressions are about to assault our desktops with another hex tile, turn-based strategy wargame.

Front Lines is set in another of our possible futures in the year 2020. Things are looking decidedly grim as mankind has once again embarked on its favourite pastime, war.

All the numerous combat units and battalions are under your control over a number of set scenarios and missions. Variety is one of Front Line's most appealing features with artillery, mega-tanks, blast wagons, ground-surface missiles, shuttles and armoured personnel carriers to name but a few.

Infantry-wise there is the usual gathering of grunts and cannon fodder but in addition the tech infantry are on hand when the going gets tough. But the most useful human units are the engineers. No, they don't hand out sandwiches and flasks of coffee for the moral of the men. They can be assigned much more useful tasks such as destroying and repairing bridges and all manner of jobs involving explosives and spanners.

## Similarity

AS soon as play commences the similarities between Front Lines and Blue Byte's Battle Isle series are immediately obvious. There are two armies, blue and red. You control blue and the computer, red – unless you are in a two-player game, more on which later.

Players take it in turns to dictate their forces into battle. Each turn is broken down into two main phases: Movement and combat. During the movement phase each unit or battalion can be moved its allotted amount. Every unit is different: The lighter divisions can move quicker and better over rough terrain while the heavier units are slower but carry much more firepower.

A hexagonal grid breaks up the battle-ground and during your turn the available hexes are highlighted to show you where the chosen unit can move and during the



Defend your installations



## Reviewed by Pete Hawley



The plot is unveiled in newsprint

combat phase the range of its weaponry.

The in-mission detail is excellent and the intelligence of the computer controlled opponent is well above the usual CPU predictability. For this reason it is even more essential to get your strategies right. The terrain types affect the movement of all the units and it takes time to balance this movement with good



combat skills to outwit and outflank your enemy.

On the battlefield there is never a dull moment. The pace of Front Lines is well balanced and held my interest throughout despite my initial fears that the turn-based approach would slow things down too much.

And what is a game these days if it doesn't have a multi-player option? Over the last few months we've seen games receive lower marks than they deserve as a standalone product simply because they

are missing that vital long-term interest element: Kicking ten tonnes of nuts and bolts out of a friend or enemy over a network.

But war heads can rest easy. Front Lines has the option of competing against others. Not only with the scenarios included on the CD but, in addition, you

can use any you create with the mission editor also included in the package.

This guarantees an even longer shelf life and in the wargame genre will no doubt stand out as a well produced and professional product. In my book it's not quite up to the standards of the Battle Isle series but the sheer detail and energy that has obviously gone into the creation of Front Lines make it a close second. **PCH**

## FRONT LINES

Supplier	Daze Marketing
Tel	0171-372 7435
Price	£39.99
Format	CD-Rom

## REQUIREMENTS

PC	486
Total memory	4Mb
Sound support	SoundBlaster, G-Midi, GUS
Control	Mouse
Hard drive	7.3Mb

**PC home**  
**VERDICT**  
**83%**



Assign and edit units then display them on the hex-based map





Oooh the excitement of ship-to-ship combat. It's just too much to bear – look at all those buttons. I just can't decide which one to click



No flying suits in X-Com. No sirree Bob, Plastic Aqua Armour, that's what you want matey

# X-COM: TERROR FROM THE

Reviewed by  
Lance Concannon



I'VE always wondered why it is people assume that any aliens who happen to be passing through the area are bent on conquering the planet and enslaving or slaughtering the entire human race.

I mean, in the films you never see an extra terrestrial emerging from his spaceship and saying something like: "Greetings Earth creatures, I am Zorag from the planet Bumfluff and I have come to borrow some tea bags, and a cup of sugar if you don't mind, but NutraSweet will do if you haven't got

any". Before they get a chance to introduce themselves, people like Sigourney Weaver and Arnie Schwarzenegger start shooting at the poor devils.

Anyway, in this sequel to the outstandingly groovy UFO: Enemy Unknown the aliens don't want to borrow any tea bags. Nope, they are only interested in tearing around in their flying saucers and menacing upstanding members of society.

Obviously the nations of the Earth aren't particularly impressed with the idea of intergalactic hooligans so they've handed you a great wedge of cash and

*carte blanche* to take whatever steps you feel necessary to sort the buggers out.

So far this must sound fairly similar to UFO. "Why should I hand over another chunk of dosh for X-Com?" I hear you cry. Well, the main difference is that after completely screwing up their land-based invasion the aliens have decided to have another go, but this time starting off in the sea.

Instead of simply pumping the oceans full of toxic waste, which is what I would have done, you have to build a pile of underwater bases in order to slug it out

with the invaders fair and square.

Gameplay is almost identical to UFO, the basic idea of things being to terminate any form of alien activity as swiftly as possible. Once a UFO is spotted you send out a flying sub to intercept it and bring it down. You have very little control over this part of the game except for deciding how aggressively to attack the enemy craft.

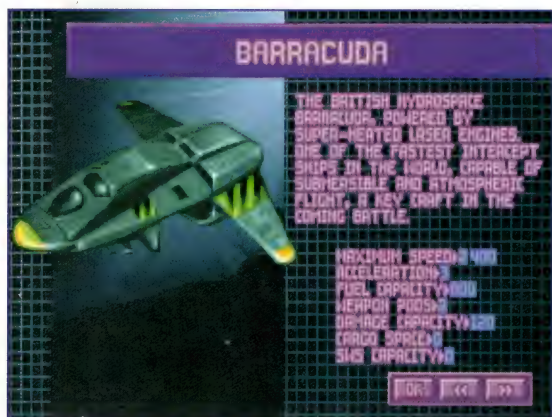
Once it's downed you can send a squad of Aquanauts out to investigate the wreckage. The squad is controlled using a turn-based combat system which means that you dish out orders to the blokes then the aliens make their moves and so on until the mission is over.

## Seabed

MOST of the missions take place on the sea bed where the programmers have done a good job of making the graphics look all murky and foreboding. However, the nasty monsters occasionally decide to terrorise a harbour town or a ship above ground.

Unfortunately, the first mistake I made was to send out a full squad only to find that their weapons only worked under water.

Assuming all your troops don't get completely slaughtered during a mission



If you ask me they should have used the game engine from Subwar 2050 to spice up the ship-to-ship combat



Have a go at a bit of vivisection on the aliens you'll have to build a containment unit to keep them alive





Although most of the missions are based on the sea bed, a few are land scenarios, such as this one on the Easter Islands

# DEEP

they'll be able to recover alien weapons and artefacts which can be researched and then manufactured at your bases.

Unfortunately this presents another set of problems to grapple with: You have to build laboratories and workshops, scientists and technicians need to be hired and you'll have to build accommodation for them.

## Addictive

THEN as the pace of the game increases managing your bases can become a real headache. The steady stream of new weapons and equipment works excellently to keep you hooked so much that it's practically impossible not to play right through to the very last mission.

Another incentive for progression is the appearance of new types of alien throughout. When they are captured and experimented on they usually lead to the development to new technology for your men.

Also, as you progress, soldiers get promoted and perform better as the missions become progressively more demanding. As time passes alien activity increases and

Many of the weapons are similar to those in UFO. This one is identical to the good old Auto Cannon



the governments funding the X-Com project expect you to be able to cope with the extra problems.

If they are dissatisfied with the results they'll be a little tighter with the purse strings which will only serve to make your job even harder. It takes careful management of your bases to ensure that you don't fall into a perpetually declining spiral. If the efforts

prove completely inadequate, the project will be terminated and it's game over time.

When you compare X-Com and UFO side by side it becomes fairly clear that there's not much difference between the

two aside from the extra in-game animations in X-Com. Although X-Com is as immensely playable and addictive as its predecessor, it hasn't really been improved that much, though it has the advantage because it offers the variety of ground and sub-aqua based missions.

The weapons in this game aren't quite as warmongeringly death-tastic as in UFO but they're still a whole lot of fun.

The new equipment, aliens and scenarios will be more than enough to persuade UFO freaks such as myself to grab a copy as soon as it hits the shelves. However, if you weren't as obsessed as I was you might not think it's worth splashing out for what is essentially the same game. **PCH**



## X-COM: TERROR FROM THE DEEP

Publisher Microprose  
Telephone 0454 326532  
Price £44.95  
Format Floppy/CD

## REQUIREMENTS

PC 386 or higher  
Total memory 4Mb min  
Sound support SB/16/Pro, PAS/16, Soundman  
Control Mouse  
Hard drive 20Mb

## ALTERNATIVELY

UFO Microprose  
Reviewed May '94  
Verdict 91% X-Com's predecessor, an excellent turn-based game of combat tactics, lots of destruction and loud bangs, great fun

## RATINGS

GRAPHICS ★★★★★★  
SOUND ★★★★★★  
LONGEVITY ★★★★★★  
GAMEPLAY ★★★★★★

## PC home VERDICT

"A great follow up to one of 1994's best games – a few more new features wouldn't have gone amiss though"

# 89%





Blimey! International Gladiators or what? How come I don't get Jet or Scorpio? It just ain't fair



Why do I have this sudden urge to whistle the theme tune from The Great Escape?



The Sabre Claw – great for scratching people's eyes out, but not a patch on a chainsaw

**S**O there you are on a Saturday night, praying that the nauseatingly good-looking person on Bland Date ends up picking a total hound. Then you try to decide whether to wait for the lottery numbers before moseying on down to the local purveyor of alcoholic beverages.

Next thing you know the aliens have landed and started mercilessly slaughtering the entire human race. Obviously this is not a satisfactory state of affairs, especially as you were quite looking forward to living long enough to find out if Craig and Sharon enjoy their Bog Snorkelling weekend in Birmingham.

Fortunately, the chaps who make such

decisions have chosen to give you the honour of saving humanity from a serious case of extinction.

This does however mean that you'll have to be transformed into some sort of ultra hard cyborg warrior type with no capacity for independent thought and, if the picture on the box of this release from Mindscape is anything to go by, a complete inability to continue the family line.

But it's not as if you've got anything better to do, so before you can say "Argh! Surely not another Doom clone?" you're up to your eyeballs in alien beasties.

It probably won't come as a surprise to learn that CyClones isn't a patch on Doom, that most terrible of timewasters,

but you may well cock a disbelieving eyebrow if I were to tell you that it certainly manages to do a few things better.

Take for example the control system: One hand on the cursor keys to move around and the other on the mouse which allows you to move the gunsight around the screen, left button fires, right button opens doors, picks up and uses objects.

Also, by moving the sights to the top or bottom of the screen you can look up and down. Rotating left and right works in pretty much the same way and is far quicker than the keyboard.

Maybe I've made this all sound far more complicated than it really is, but believe me when I tell you that this system works a treat.

Although the general theme of killing everything in sight is still very much in evidence, CyClones also gives you missions to complete on each level.

For example you may have to rescue a captured scientist, restore power to a spaceship's engines or any number of other mundane tasks. This idea works reasonably well and gives the game a light sprinkling of variety without which it would suffer badly.

Another advantage of this is that there are usable objects lying all over the place to be picked up and generally misused. Ammunition will automatically be inserted into appropriate weapons and surplus must be left behind, but armour and health replenishments can be carried around until needed – very handy sometimes.

So far so good, so why doesn't this offering compare favourably to the big D? Well for a start, despite using splendidly detailed bitmapped scenery, the game feels strangely reminiscent of Doom's predecessor, Wolfenstein (sigh, such nostalgia).

This is mostly down to the way your character moves. In Doom he bobs along realistically as though he were running but in Wolfenclones he seems to glide smoothly across the ground.

Also, while being extremely well drawn, the beasties are somewhat blocky and this serves only to bring memories of that historic game flooding back.

CyClones' most important failing, which it shares with almost every other existing

Doom clone, is that the weapons, not to put too fine a point on it, are rubbish.

Instead of a great big pump action shotgun or a 50 megaton rocket launcher, you are given a pathetic collection of weedy little pea shooters. They might make holes in the enemy but they simply aren't satisfying enough to use.

Unfortunately, this is where CyClones really falls down. The varied missions serve well to keep the determined player hooked but the lack of spurtose weapons means that there's no initial adrenaline rush to persuade those of us with attention spans narrower than a Welsh B road to carry on playing past the first couple of levels.

Having said this, I did find it strangely

# CyClones

Reviewed by Lance Concannon



A Photon Chaingun. Cah! Girly tart's handbag accessory if you ask me. You wouldn't see Arnie poncing around with one





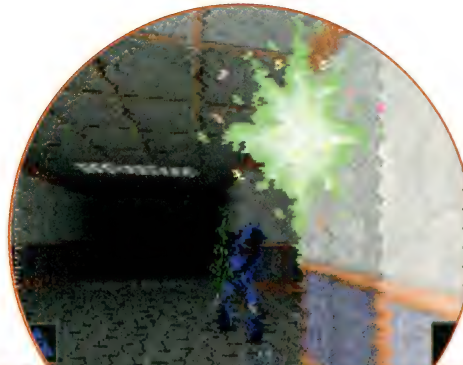
addictive, although this probably has a lot to do with the clever control system being so nice to use.

There are some incentives for progression: The scenery changes fairly radically from level to level and new scary monsters crop up with alarming frequency. New weapons come along at a rate of about one per level which is a little too slow for my liking and they have an annoying habit of being very disappointing when you do find them.

CyClones is fun, make no mistake, but it doesn't make you want to play it over and over again in the same way that Doom does. Most of us still find good old E1M1 just as entertaining as the first time we played it.

It's funny that even though the Doom engine has been around for well over a year, nothing has managed to equal it – except maybe Dark Forces – let alone better it and most of the so called Doom clones are hardly an improvement over Wolfenstein.

CyClones falls somewhere in between those two generations, so if you've grown weary of Doom, Doom II and Heretic and for some reasons Dark Forces doesn't appeal – and you obviously wear a blouse – CyClones is about as near to the real action as you're likely to get. **PCB**



Oooohh! It's all gone sort of wobbly, freaky trip out or what? I think I need a nice lie down and a convenient bucket



Goodies are liberally scattered around. Alien invasion fleets don't understand the importance of keeping munitions locked away



Hurrah! Ceiling-mounted, computer-controlled, twin-barreled, robot machine guns – now that's what you call a man's weapon



Are Cyborg warriors allowed to be scared of heights? Gulp!



Barrel blasters have plenty of gunk laden oil drums to detonate



Hiding on top of the wardrobe is a cowardly but effective strategy



## CYCLONES

Publisher Mindscape  
Telephone 0444 246333  
Price £44.99  
Format Floppy

## REQUIREMENTS

PC 486 33MHz  
Total memory 4Mb  
Sound support All SB compatibles (not AWE32), PAS 16, AdLib Gold  
Control Mouse, keyboard  
Hard drive 20Mb

## ALTERNATIVELY

Doom ID Software  
Reviewed Xmas '93  
Verdict 95% Doom, remember? Shotguns, chainsaws? Death, blood, gore, death, violence, death  
Dark Forces Virgin Interactive  
Reviewed March '95  
Verdict 95% Doom with Storm Troopers and laser guns. Abuse the horse Luke

## RATINGS

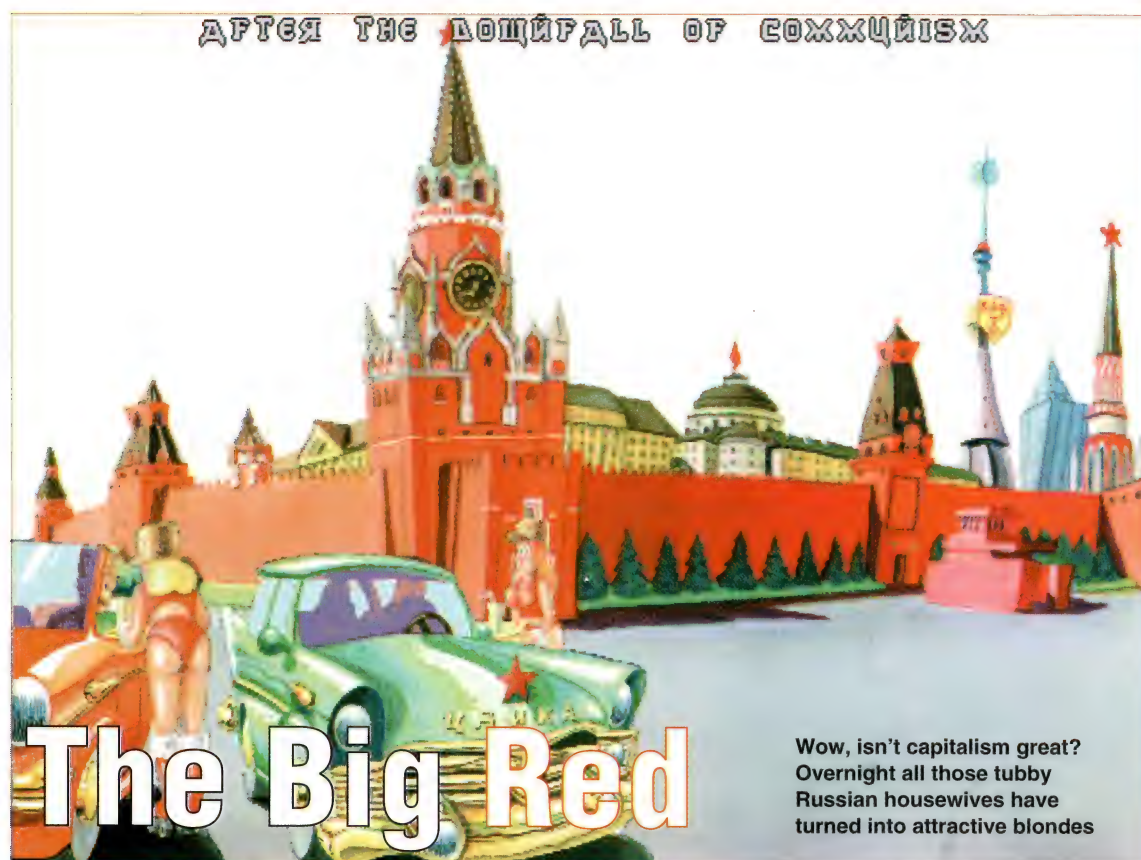
GRAPHICS ★★★★★  
SOUND ★★★★★  
LONGEVITY ★★★★★  
GAMEPLAY ★★★★★

## PC home VERDICT

"It's okay, even not bad, but why not just buy Doom, Doom II, Heretic, Dark Forces, Rise of the Triads or Descent?"

# 75%





# The Big Red

# Adventure

Wow, isn't capitalism great?  
Overnight all those tubby  
Russian housewives have  
turned into attractive blondes

**Reviewed by  
Rob Smith**

**A**S Core Design wave a cheery farewell to the Amiga market, they announce themselves to the PC gaming populous with The Big Red Adventure – a game of quite epic proportions. Available on either CD or 12 floppies the full installation eats a massive 60Mb of your hard drive.

Fortunately, the adventures of Doug Nut (groan) – the hero – in the now capitalist land of Russia can be split into six separate parts. Each takes 10Mb, surprisingly enough, which is far more manageable.

Anyway, this vast amount of storage space is needed to stockpile the hundreds of locations, characters and situations our Doug, and two colleagues, can encounter and involve themselves in as they try to secure the future of free Russia.

While Russians rejoice that they can now entertain the delights of fast food, fast cars and fast women (optional), there are those hard-liners who hark back to the days of misery.

Meeting in secret, these miserable old sods who thought communism was a fine idea and shuddered at the growing free state, plotted to return their country to communism – to the doctrines of Marx, that's Karl Marx.

Doug is on vacation and is something

of a techno-nerd and likes nothing more than playing with his dongle. Dino Fagoli is an Italian with big muscles but lacking much clout in the brain department.

Donna Fatale is a babe who has been known to commit the odd minor indiscretion and is now susceptible to blackmailers. Between them, the three stumble on the Old Guard's plot and, well, get in the way and cause some havoc.

The Big Red Adventure features cartoon graphics of all the characters with most people you meet having something to say, even if it's just a comment on the weather or how to take a nice photo of the Kremlin.

Doug and pals – who appear a short way into the game – are controlled using a very simple point-and-click interface. A right mouse click brings up an icon display which allows them to talk to people, pass over objects, pick things up and examine any bits of interest. There's also a money icon since in this new Republic, cash talks.

Simple rules to follow include talk to everybody. Even the hotel porter might have something interesting to say – and then again... Speech is presented in typical comic book style bubbles and while the conversations are pre-determined they soon help get you into the style and

mood of the game. In this respect, The Big Red Adventure is fairly unique. It has an original style and attempts to combine a large, in-depth adventure with humour, simplicity and entertaining gameplay.

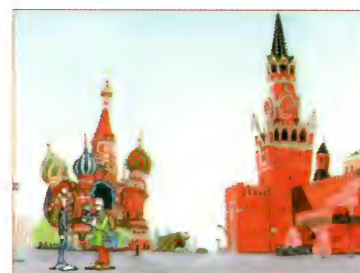
The humour is fairly amusing with a number of stereotypes making appearances purely for their comedy value, such as the Japanese tourist and the fast food joint attendants.

Moving around is very straightforward and the simple interface gets you into the flow of things very quickly. This is quite important in a game of this size since while it evidently offers many hours of searching, exploring and discovering, the volume of information could be a put off to some.

Still, the save game option helps considerably and works between episodes, allowing you to remove a part of the game once it has been completed.

The Big Red Adventure is a bold effort at providing comic book humour and entertainment. But there does seem to be a little bit of spark missing, that little something to really make it stand out – apart from the logistics of its sheer size.

There are few games to compare it against – so originality is a positive feature – but it could also be a little too quirky for some tastes. **PCH**



This Japanese tourist is, of course, a technological photo freak



The Russians must be thrilled about junk food served on roller skates



Things never change. Let's go hassle some homeless folk



## BIG RED ADVENTURE

Price	£39.99
Supplier	Core Design
Tel	0332 297797
Format	Floppy (12) and CD-Rom

## REQUIREMENTS

PC	486
Total memory	4Mb
Sound support	SoundBlaster and compatibles, AWE32, AdLib, General Midi
Control	Mouse
Hard drive	10Mb (or 60Mb)

**PC home  
VERDICT  
77%**

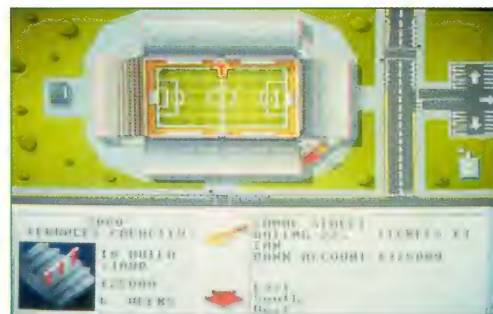




Player selection menus



It's a goal – sadly this is as animated as it gets



Carry out improvements to the ground

I T was shortly after the board expressed their full confidence in my ability to lead Macclesfield Town clear of the relegation zone that my career took an upward turn. I was fired. Best thing that ever happened to me John, honest. 'Cause before you know it I was down the West Ham knocking back the jellied eels and er, whatever else they eat in the Upton Park board room.

Tomorrow's headlines? Fantasy football league overdose? Nopé, it's the third instalment of the short running, knock one out every year, Premier Manager series from Gremlin.

Now you might be forgiven for wondering why on earth anyone would want to do three versions of the same football management game, or indeed why anyone would want to play it. But Gremlin have got their marketing right in the Amiga market at least, because it was the number one full-priced game the week I wrote this review.

PM on the PC has had a varied career. The first version was entertaining, but sub-Spectrum match graphics and a lack of depth plus rather easy playability, and numerous bugs, left room for a fully justified PM2. That addressed all those faults, except the one about match graphics. So with PM3 I was looking for a major step forward in football management. Pity really.

You start off as usual in the Conference, but one rated with last year's teams not this, since the runaway leaders this year – Macc Town – are cannon fodder. The front end menu system is still the same – all icon based and completely unintuitive.

Now if you're going to go to town with

# PREMIER MANAGER III

Reviewed by Duncan Evans

icons, the justification is to make looking things up in the manual unnecessary. Not so with PM3: You have to learn what they all do, then it becomes relatively easy to navigate.

I say relatively because one of the failings of the series is retained for discussion again. The team formation tactics and player positions are addressed on three different screens, with bits on each. Why, when everything could have, and should have been in one place?

What makes it worse is that the individual player tactics are just that – individual. You can't apply a set to the whole team, or more realistically, tell all the defenders to play a long ball game.

Every player has to be set manually – in every single formation from 4-4-2 to 3-5-3

as well. Change formation at half time and you have to wallow through altering every single player tactic to get what you want.

One improvement is the ability to hire coaches, all rated like the players, so that they can take care of the tedious things like sorting out sponsorship, training and dealing with medical cases. I liked the ability of the recruitment coaches to affect the quality of the players they could find – unrealistic, but a good gameplay twist.

Other additions include the European transfer market so you can make like George Graham and sign international players from dodgy agents – actually the *bung* option to line your pockets is sadly missing. I found Europe had little to offer Macc Town, but would probably have entered the picture when I took over at West Ham.

What did work well was getting better players on loan from other, higher placed clubs. The core of my team were the three blokes on loan from Swindon – I suppose they were desperate for somewhere interesting to play.

On to the match front and the old ZX-81 quality blockmania graphics have been dispensed with in favour of sub-Spectrum teleporting model players. They don't run from position to position, they disappear and reappear – even on low speed it's very difficult to tell where the ball is.

The characters aren't even animated. Even the BBC B version of Football Manager managed better teletext graphics than this 10 years ago, and this is on the power platform of the 90s. Gremlin's pro-

grammers should be strung up for this farce.

Actually you can watch the match with player numbers instead of figures, but it's no better, or remove all the players and simply watch the ball teleport around, which means you can at least see where it is. A small drawn picture of the ball hitting the back of the net when the other team scores is scant consolation.

And now we come to the final nail in the game's coffin. The PM series was too easy Gremlin decided. So even with a squad that is above average you will finish bottom of the Conference.

Only when a team is assembled that is markedly better than the opposition will you win consistently. I'm all for making a competitive game, but stacking the odds against the player to make up for the game's gameplaying weaknesses is a pretty harsh answer.

There are some improvements to the series with PM3, but many things are simply nowhere near good enough for the PC market. The main reason for its release is to hear cash tills ringing rather than address the pointed failings of the previous outings of Premier Manager. A rename to Division Two Manager would more illustrate the quality of this management simulation. **PCW**



The main menu screen is a great collection of icons

## PREMIER MANAGER III

Price	£35.99
Supplier	Gremlin
Tel	0114 275 3423

## REQUIREMENTS

PC	286
Hard drive	6Mb
Sound card	SoundBlaster
Format	Floppy

**PC home VERDICT**  
**58%**



# Pinball Fantasies

## Deluxe



Score the winner in Kick Off



Break out of prison in Jailbreak



### Reviewed by Lance Concannon

**S**O, you've blown the best part of two thousand squids on a state-of-the-art, high-powered mega PC. What do you want to do with it? Surf the Internet? Try out the latest multimedia package? Create some fantastically detailed rendered art work? Or turn it into a pinball table?

It never ceases to amaze me just how many people are prepared to go for the last option. Makes you wonder why people bother writing such delights as Doom and Magic Carpet.

Anyway, if you want slick pinball action the best people to call are 21st Century Entertainment who, in my opinion, do it better than anybody else. Pinball Fantasies Deluxe is the latest instalment of a long running series featuring steel spheroids which started some years ago with Pinball Dreams.

There's not much I can tell you about Deluxe that hasn't been said already about the rest of the series. The graphics are bright, colourful and well animated.

The ball bounces around the table almost like the real thing – it would be very hard to improve on the physics. You can even nudge the table and force the ball back into play if it's in danger of falling down one of the gutters.

Fantasies Deluxe includes additional

features which were not available in its predecessors such as multiballs and extra flippers.

As well as the four tables found in the floppy version of Pinball Fantasies, Deluxe features yet another four: Tarantula – which is all about big hairy spiders, Jailbreak – loosely based around the theme of life in one of Her Majesty's hotels, Kick Off – covering the subject of football and Jackpot which concerns itself with the subject of gambling.

Just in case you don't own the floppy version of Fantasies, the other four tables are Party Land, Speed Devils, Billion Dollar Gameshow and Stones 'n Bones and are self explanatory.

All the tables are fairly good fun to play – my personal favourite is Jackpot. They could really do with some more ramps and a few extra features to move a step further forward – at the moment they're still far too similar to the first game in the series.

Pinball Fantasies is just as entertaining and mildly addictive as all the other games in the 21st Century Entertainment range, but it's not really a vast improvement over them.

If you already own the floppy version, Deluxe doesn't really offer you much of an incentive to spend yet another £40. **PCH**



High speed jinks in Speed Devils



Spooky times in Stones 'n Bones

### PINBALL FANTASIES DELUXE

Publisher	21st Century Entertainment
Telephone	01235 851533
Price	£39.99
Format	CD-Rom

### REQUIREMENTS

PC	386
Total memory	560k
Sound support	Most popular cards
Control	Keyboard
Hard drive	150k

**PC home  
VERDICT  
75%**



**£19.99**

\* preorders 8

## 240 ADOB

**DOUBLE CDROM**

Travel Adventure! The Disk contains a first-rate collection of travel photos of the US, Ireland, Austria, Germany, Caribbean Islands, other subjects like Stunning Mountains, Gorgeous beaches, coves, and surf. Adazzling array of cities and loads more the images come in a variety of sizes & formats (1024x768 24 bit TIF, 1024x768 GIF, 640x380 8 bit GIF).



**G**AMES are fun, right? Games are for relaxation and enjoyment, sound reasonable? Understanding the capabilities of your ship, mission orders and objectives, defining the objectives and tactics of your enemies and using skill and judgement to achieve your own objectives while frustrating those of the enemy (phew) – does that sound fun, relaxing or entertaining? Sounds more like a job advertisement for a US Navy captain. That's because it is.

The USS Ticonderoga is a battleship of immense proportions, awesome firepower and frightening responsibility – and it's yours! Yep, 9,466 tonnes of steaming great US battleship, armed to the teeth with guns and missiles of its own and a couple of helicopters to boot. Should be fun.

Life and Death on the High Seas is one of those complex strategy games you either love or loathe. If the intricacies of battleships, tactics and responsibility are not your thing Ticonderoga is certainly not going to be of too much interest. Strategy fans, however, may just have found themselves a treat.

### High powered?

IT is a little worrying that the minimum processor requirement is suggested to be a 486DX 33 with 8Mb ram. Fortunately, it ran quite merrily on a 486SX 33 with 8Mb ram – good news for those without great wads of processing power. Requiring 14Mb of hard disk space for installation, the graphics and speech come straight from the CD which, considering the huge amount of detail contained within the game, is acceptable.

Opening with an impressive animation sequence showing jets unleashing missiles and then getting blown out of the sky, ships exploding and guns blazing, it provides quite a taster of some of the action to be undertaken. The graphics, music and sound FX combine superbly to whet the appetite.

The game itself is a complex affair, not particularly easy to get to grips with although the control interface is straightforward enough. It's the sheer scale of the commands which make the complexity.

Controlling a vessel as powerful as the Ticonderoga requires a captain who is totally clued up on what is going on every-



The plot unfolds – many scenarios involve the Middle East

# USS Ticonderoga: Life and Death on

## Reviewed by Rob Smith

where. With suggestions, help and comments coming from other crew members, there is a huge range of things to do. The main one is to complete the missions set by the Admiralty.

Missions concern three areas with different enemies offering varying attack styles and response requirements. Even in these post-Cold War days, computer game manufacturers maintain the Russians as a potential threat.

Intelligent Games, the programming team behind this venture, are typical of this with a number of missions to be com-

pleted which see a resurgent Russian force battling around Iceland for control of the shipping lanes in the Atlantic.

The Persian Gulf is, not surprisingly, another area to be patrolled in a scenario which sees the Iranians as the dominant Middle Eastern power. Utilising different equipment and tactics to the Russians, leadership skills are tested by the problems posed by a new enemy. This is actually the starting point where a simple tutorial mis-

sion requires the Ticonderoga to destroy three oil rigs.

Finally, the Sea of Japan needs patrolling as a threat from the North Koreans poses further problems. Defence treaties with South Korea and Japan necessitate the Americans involvement in this area – and the North Koreans may have nuclear weapons.

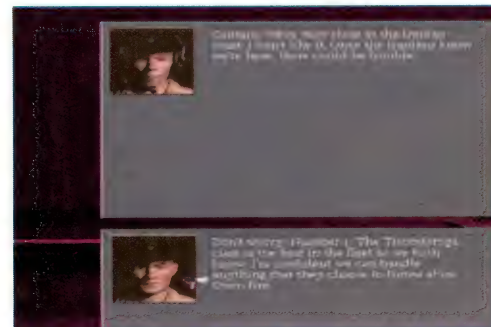
So the geographical areas provide various problems in their own right, the styles



Briefings are in text and spoken by the officer



The local map – for plotting and strategy



Conversations about between characters



of the enemy are all different and the equipment being used means that the skills of the Captain are tested to the full. Should be a bit of a challenge.

Not only that but in some of the major, intense and complex missions you can effectively take charge of the whole fleet – ships, submarines, helicopters, the lot. This is a bit much, so a function key allows you to set high-level commands whereby you set a course, speed and action for a particular vessel and then let them get on with doing that job.

## Surface and air

THE whole thing is controlled through a number of different screens which show surface, air and submarine movements, weapon options in each of these three platforms and movement plans.

The point and click interface is simple enough and there are a number of quick keys based on the functions and number keys allow flipping through the relevant command areas quickly and easily. This is absolutely vital to the flow of the game which relies heavily on decisions being made with speed and precision.

Help is available through all this from some of your junior officers. This brings a role playing aspect to what could have been a very standard strategy game. Officers can approach you and you can ask

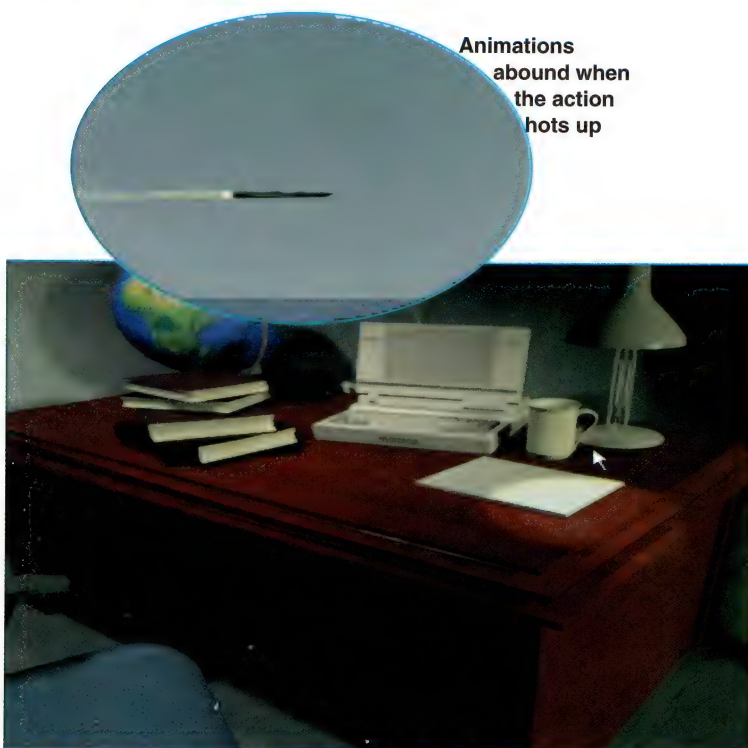
them for comments on various decisions.

This is presented as a dialogue which gives you three different options of response. This interaction is, to a small extent, rather superficial since while your commands have to be carried out, you then need to act upon those command decisions by planning how those objectives are to be achieved.

## Feel at home

FURTHER feeling of actually being onboard a ship comes through the ability to wander around the different operations rooms and even your own cabin where you can watch a video and have a cup of tea.

# the High Seas



This is your cabin, complete with computer and a nice cup of tea

## IN THE THICK OF THE ACTION



The action gets heated with incoming fighters



Enemy missiles streak ominously towards the convoy



A nervous captain manoeuvres desperately into a safe position

These aspects are all rather cosmetic and no actual decisions can be made from these screens, but add a little to the experience. Not much, but a little.

As strategy fans will be aware, there is little in the way of intense action. All the events, the missiles hurtling towards their intended targets, the movement of the air support and gun fire, is viewed on the sensor's radar.

Small animations appear as a particular type of missile is fired and there are some great scenes of ships exploding as an *on target* missile nestles with devastating effect into the enemy.

Patrolling the Gulf and travelling around at 30 knots top speed means that actually getting into position can take a little while so a speed up option moves the clock on at anything up to 64 times the normal amount, making travel from A to B a much

less painful experience. Within this time a great deal can happen so you need to keep a careful eye on events, especially with so many different vessels moving around.

## Detailed

WHAT this all adds up to is an incredibly challenging strategy game which gives you the opportunity to command a wide array of ships and submarines in a variety of difficult circumstances. The graphics and sound combine to great effect to help the whole atmosphere develop.

Strategy games can be slow, putting off the Doom lovers, but USS Ticonderoga does offer some quite intense excitement when there are missiles flying, yells of 'incoming' from the crew sounding out, explosion blasting and chaos reigning.

The manual helps out, explaining the intricacies of various missiles, guns and different classes and types of ship giving the novice every chance to become embroiled in the thrill of command. Strategy fans will love it, those who have never experienced the thrills of captaining such an awesome vessel just don't know what they are missing. **PC**

## USS TICONDEROGA

Publisher	Mindscape
Telephone	0444 246333
Price	££45.99
Format	CD-Rom

## REQUIREMENTS

PC	486DX 33
Total memory	8Mb
Sound support	SoundBlaster, Pro, AWE32
Control	Keyboard, mouse
Hard drive	14Mb

## ALTERNATIVELY

Carriers at War II	Electronic Arts Reviewed Jun '94 76% Slightly dodgy, low-spec strategy game set around Japan
Great Naval Battles II	US Gold Reviewed Jun '94 76% World War II battles with some decent features

## RATINGS

GRAPHICS	★★★★★
SOUND	★★★★★
LONGEVITY	★★★★★
GAMEPLAY	★★★★★

## PC home VERDICT

87%





A sedate setting for some underwater action



The Funfair – the doorway to all the sideshows and games

# PYSCHO PINBALL

Reviewed by Rob Smith

EVERYONE knows what pinball games are all about so we'll dispense with the explanations. Most people will have seen or at least heard of The Who's rock opera Tommy, featuring the Pinball Wizard – and how can you review a pinball game without mentioning it? If you have, you probably think that pinball is pretty cool – it is. What many people won't be aware of, at present at least, is how good Codemasters' Psycho Pinball is.

It's actually very good. Verging on the excellent. Andrew Graham, the geezer behind Micro Machines, one of the all time classic games, is its creator. Two years of development on the maths behind a moving pinball, er, ball and the use of *interactive vector reflection* has resulted in a highly effective and, dare I say, realistic feel to the gameplay.

## Competitor

PINBALL Illusions, Fantasies, Dreams, or whichever version you wish to mention from 21st Century Entertainment have pretty much dominated the proceedings in this genre, but with Psycho Pinball a serious competitor has emerged.

Four tables are provided, starting with the Funfair which apart from offering its own array of special events and bonuses, can also incorporate the other three tables as extra features.

Jolly ditties play the kind of music familiar to fairground-goers as the ball is whacked around the large table with incredible smoothness. While all the features and bonuses are explained in the manual, most people will simply want to get on with the game and work things out as they go along.

This is fine, but there is certainly plenty to work out. As with all pinball tables, certain pads need hitting to light other options which in turn lead to bigger and better features and bonuses.

Apart from the obvious problem of all computer pinball games of being unable to see the rest of the table – to see what's flashing and what options are available – Psycho Pinball plays as realistically as you're likely to get. Raised platforms and ramps are all included and while they don't perhaps give the same degree of 3-D effect seen in Illusions, it is still very realistic. While real-

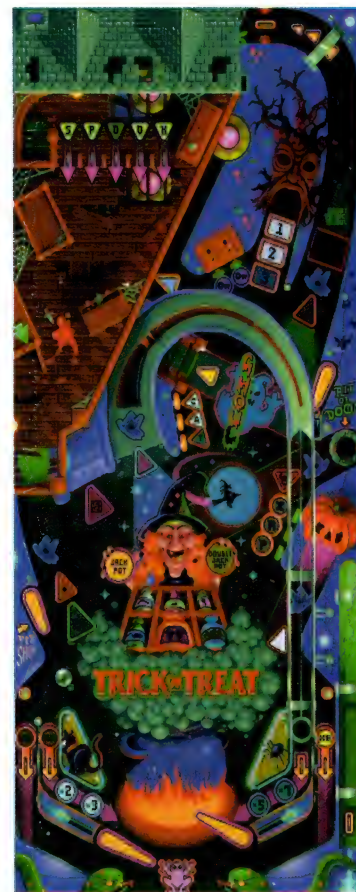
ism is an important factor, fun is the main emphasis and it offers it in abundance. The other three tables – Wild West, Trick or Treat and The Abyss – have terrific features and special bonuses of their own – including games of Blackjack, Find the Pea and Hunt for Pearls – but there's a certain cartoon feel which simply makes them fun to play.

Colourful, cartoon style graphics and brilliant tunes help keep the pace and adrenalin flowing. An effective digital display keeps score and lets you know of any bonuses and special features on offer. A little problem with this is that you can be concentrating so much on the play that you might miss some of the nifty animations.

Multiball is one of those features which really makes pinball exciting and Codemasters have managed to capture the



Ghostly goings-on in the haunted Trick or Treat



Ride 'em cowboy 'n' all that in the Wild West

frenetic activity, panic and exhilaration of belting three balls around the complex tables with great aplomb. Other features include having up to four player games and a two player simultaneous scenario in which each takes a flipper and scores are allotted to whoever hit the ball last.

Fast, frenetic and, most importantly, fun, Psycho Pinball is a belter of a game with an infinite lifespan – let the high score contests commence. **PGH**

## PSYCHO PINBALL

Supplier	Codemasters
Tel	01926 814132
Price	£29.99
Format	Floppy and CD-Rom

## REQUIREMENTS

PC	386
Total memory	4Mb
Sound support	SoundBlaster, AdLib
Control	Keyboard
Hard drive	Minimal

**PC home  
VERDICT  
87%**





It's all fairly clean family entertainment but you still have to kick enemies in the head

# Superfrog



**Reviewed by Andy Shaw**

**T**HERE'S this frog right and he's got super powers. He's a bit peeved because a witch has kidnapped his girlfriend and to get her back into his slimy embrace he's going to have to bounce around 24 levels of cute graphics and beepy soundtracks destroying deadly enemies and collecting a small fortune in gold coinage.

Superfrog is an Amiga converted platform game which did rather well on that format. But since the vast majority of Amiga games are platformers and most games of this nature are essentially the same, they always get raved over anyway.

Gameplay is exactly as you'd expect. Use the keyboard or a joystick to control your amphibian around the very smooth 360 degree scrolling backgrounds. Power ups will give you the power of flight, invisibility, extra speed and funny little green blobby critters to throw at your enemies. Standard platform action with nothing particular to add to the genre.

The graphics aren't quite as nice as in

Zool. The sprites are big, but the locations don't have quite the same amount of strangeness which, when it comes to talking about animals with super powers isn't exactly out of the realms of the imagination.

Superfrog has a far more cartoony feel which may appeal more to youngsters than the spectrum of colours and the weirdness of the levels of Zool that appeal more to wizened old hacks like myself.

Predictably, product placement has made it into the game as it seems to have to in all platformers these days. Superfrog's favourite beverage is Lucozade – essential for keeping his heroic powers at the peak of their potential.

The link to all-night rave parties and young, sweaty people with wide pupils is no doubt completely coincidental, but perhaps you'd better take a good close look at the screen shots.

Check out those wide froggy eyes and decide whether you've ever seen a frog that looks quite so spaced out and always desperate to get his lips around a bottle of iso-

tonic pop. But then again, at least he isn't an obnoxious blue hedgehog with a hair-style Lance can only dream about.

Worth mentioning is the price. For 20 smackers you get a fairly entertaining platform romp which isn't the best looking but plays the same as the rest, is pure family entertainment – especially if you're one of the younger members and would rather be a frog than a shotgun toting maniac or a fighter pilot.

It's also challenging enough and has the variety to last more than a few gaming sessions. For the price of a high-end budget game, you're not exactly getting a bad deal if the platform game is your preferred format.

It's the same old thing I'm afraid – if you like the fluffier end of platform games and have always wished the Nintendo would let Mario appear on the PC in his proper bouncy, friendly way, this will appeal and you'll probably get a kick out of it.

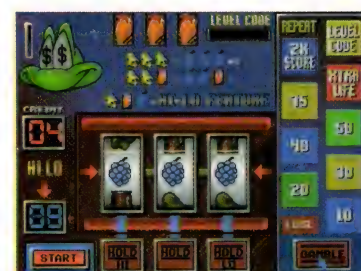
However, this is not the game that will make the flight sim or strategy fans say *Wow, this platformer really sounds quite good, I'm going to dispose of my star fighter costume and dress up like frog for my gaming satisfaction.* **PCN**



Enough of this bouncing around, I'm off for a quick Lucozade before I dehydrate



If you pick up the little green balls with eyes you can then hurl them at baddies



There's nothing like a quick gamble, and Superfrog includes a fruit machine sub-game between levels

## SUPER FROG

Publisher	Team 17
Telephone	01924 267776
Price	£19.99
Format	Floppy

## REQUIREMENTS

PC	386
Total memory	2Mb
Sound support	SoundBlaster and compatibles
Control	Keyboard or joystick
Hard drive	6.7Mb

**PC home**  
**VERDICT**  
**66%**



# SuperKarts

**Reviewed by Will Sargent**

**I**N my opinion two of the finest games of the now crumbling console era are Mario – the platform epics – and a game high up on my list of lifetime favourites, Super Mario Kart. I actually bought a SNES on the strength of the latter.

Meanwhile, PC owners played merrily along with IndyCar and F1GP, still a tad dejected at the fact that their machine couldn't quite muster the same effects as



**At the end of a race it's time to stock up on extras. Engines, tyres, turbos and oil slicks, please**

the £100 SNES' powerful 3-D Planar chip.

This brings me to SuperKarts. Or should I say the final nail in the console coffin. From the screenshots alone, you may be thinking I am seriously deranged, because this game looks nothing like the SNES classic.

Admittedly, looks-wise there's little evidence of parallelism – it's when you get down to playing the thing that memories of days lost under the spell of the Mushroom Cup, skidding around the corners of The Ghost House, come flooding back.

Yes, fortunately Manic Media have got it just right. If anything, this long-awaited PC experience can match that of Super Mario Kart and because of the eight-player network option, probably better it.

As opposed to the world of Mario where each racetrack has a novelty theme, this is based on a serious, trans-global Karting competition, taking you and your

**Here we are in Germany. Some of the pieces of track are exceptionally narrow. You find yourself breathing in it gets that tight**



two-stroke flying machine all the way from a snow-filled track in Moscow to the sticky beach-side tarmac of Australia.

You won't find any dancing dinosaurs or pouting princesses on the circuits of SuperKarts; just eight racing professionals with subtle differences in their driving abilities and only distinguishable by their different coloured helmets.

Manic have dispensed with a combat element, recompense for this is the smashing network feature. There's nothing to stop you clubbing the players either side of the screen if they consistently thrash you in the game, anyway.

Playing on a single machine, either one

or two players can compete in an Arcade or Season mode. The screen will split either vertically or horizontally. Most of you who have been lucky enough to play any of the SNES racing games will be used to a two-player mode where you occupy either the top or bottom half of the screen, and again, a horizontal divide is the best way to play here.

Each player chooses a driver from one of eight international SuperKarting stars. As with both BC Racers and SMK, the eight cars have differing control characteristics. In all three games this amounts to a prioritising of acceleration, top-end speed,



# BC Racers

**Reviewed by Will Sargent**

**W**OWSERS! Kart fever hits PC-town or what? We are talking two releases in the same month and both of them do a darned good job of it.

BC Racers is both similar and in some

respects, quite different to SuperKarts. They are both inspired by Mario Kart. You can't network it – yet – but you can play with a friend from a selection of eight pairs of characters. Yes, pairs of characters. Like Road Rash, that smart

bike game for the Megadrive and 3DO, a new element has been built into the racing theme, whereby you can bash your opponents with a big stick as you push for pole-position.

Although BC Racers offers the same game as SK, it does look very different. As the name implies, it is set in the time of cave-people where technology has progressed to the level of 100mph Flintstone-mobiles, yet communication still amounts to grunting and hitting people if they don't grunt back.

The theme is of course, a spin off from Core's Chuck Rock games. In fact Chuck

and Chuck Jrn comprise one of the racing couples. BC Racers is a lot more like Mario Kart than SK, even down to the end of race sequence where the course rotates, somewhat impressively, zooming in on the winning on a lap of honour.

Whereas SK represents a Karting environment as near to the real thing as you could hope for, Core have gone for a cartoon look-and-feel which will appeal very much to kids who haven't played this type of game before.

If Core could have nabbed the Wacky-races licence – which has already been scooped up for another game – they



**These road signs show where extra energy is located, for when your BC Racer has taken a bit too much of a battering**

**The jungle scenario is probably the hardest to get to grips with. What with all those spooky jungle noises**







Ah, India. One of the hotter climates. The only stuff you skid on here is the light covering of dust. Watch the narrow alleyways though

handling or durability. If you do batter your vehicle – either off other players or the scenery when playing SuperKarts – a pit stop, near to the start, will take a few seconds from your lap-time but restore any twisted chassis to its former self.

The 3-D engine is stunningly fast. It runs like a dream on all of the machines we have in the office. Running in two-player does slow things down a little and you will notice this more if you are running on anything less than a 486DX.

What can I say? We have all been trembling with excitement since this was first showcased at last years ECTS. It looked

good then, and nothing has been lost in the often dangerous period between preview and launch to the shelf. I know I am one of many Mario Kart fans who will be just thrilled to have something as good as it for the PC.

The huge kart sprites have been created from hundreds of frames of animation, the courses offer loads of terrain variation – one second you will be flying along a narrow, high-walled corridor and then next a wide, sandy dirt track – and the CD-fed audio track works a treat.

This is a tad better than BC Racers. Kart-control is smoother, the tracks are less cluttered and the computer-controlled



opponents are far tougher on any level greater than Easy.

Interestingly, SuperKarts supports the VFX-1 Virtual Reality headset. I still have my doubts about the effectiveness of the five or so products in the affordable home-VR scene but the only way we are going to make headway in this area, is if the brave hardware manufacturers receive a little support from the softcos. **PCH**



Head to head coming round the corner – something has to give

Select one from eight drivers or connect up a network and eight of you can play together

## SUPERKARTS

Publisher	Virgin
Telephone	0181-960 2255
Price	£1ba
Format	CD

## REQUIREMENTS

PC	486 recommended
Total memory	4Mb
Sound support	8-bit SoundBlaster compatible
Control	Keyboard, mouse, joystick
Hard drive	2Mb

**PC home VERDICT 92%**



See that dinosaur in the bottom screen on the left? He's dead slow he is. If he overtakes you then you shouldn't bother playing again

would have been on to a monster of a title, primarily because the humour they have applied to their own Chuck-theme here, works so well.

As it stands, the game looks a lot more fun than SuperKarts but falls short in playability. During a race, the computer opponents tend to snatch in and out of the display in a most unnatural manner.

Although the backgrounds are more imaginative than the industrial-estate bollards that SK uses, it can become difficult to tell which turn is coming next because of the amount of graphical detail crammed into the resolution used.

I don't in any way want to turn potential customers away from this game. The difference between the two is only very slight and to be fair, SuperKarts only wins by a small head.

BC Racers has some lovely features

which, occasionally, makes it a more fulfilling experience than Manic Media's racer. In SK, every so often you will hit a small ramp, the result of which is a small jump, only a couple of feet into the air. In BC the jumps are a major part of the game.

Following a couple of warm-up courses, you are soon spending more time in the air than on terra firma, catapulted sky-high over lava-pits, rivers and even lakes.

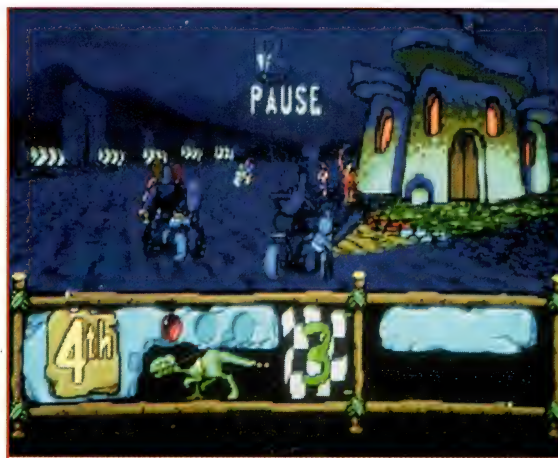
The real fun starts when you undertake some mid-air combat and leave an opponent in the gorse bushes far, far below with a big lump on his head.

It's a bit like waiting for a bus, the soft-



ware industry. Bog-all happens for ages and then two spanking releases turn up at the same time. You can't go wrong with either of these. They both offer something refreshingly different for the PC, previously only available as a console delicacy. **PCH**

A nice feature of BC Racers are the night sections. You only get to see a small triangle of light that your flickery candle-headlight supplies. Tough one



Goodness gracious.. Make sure you hit the ramps when you come sliding around the corners at top speed. Otherwise you're barbecued dinosaur food

## BC RACERS

Publisher	Core Design
Telephone	01332 297797
Price	£34.99
Format	Floppy

## REQUIREMENTS

PC	486 recommended
Total memory	4 Mb
Sound support	8-bit SoundBlaster compatible, AWE32, Gravis/MAX
Control	Keyboard, mouse, joystick
Hard drive	12Mb

**PC home VERDICT 86%**





D'Sparil, the friendly dragon riding bloke at the end of the game. Or is it the end?



Fireballs, large helmets, lava and whirlwinds. This is a good time to turn and run

# Home and Dry

**Are those gollums getting the better of you? Running across deadly lava at inopportune moments? Pete Hawley offers some advice to all struggling Heretics**

**D**OOM MEISTERS will no doubt have waded into Heretic expecting to thwart the purveyors of evil and out-magic the wizards of D'Sparil within a matter of days. Well for many of you that may have been true. But Heretic is full of subtleties and techniques that many chain-gun wielders may have missed.

In the office during our numerous hours of network blasts – and hard work – many Doom heads have fallen victim to the cool and calculating Heretic player who takes time over spell casting and weapon dodging.

For example, the Heretic hides behind a gathering of barrels while the Doom psychopath randomly fills the barrels full of magic, laughing insanely. The calm and collected Heretic player waits for his ammo to run out then quickly side steps out from behind the barrels and turns the opponent into a chicken. Cockadoodledoo!

The main difference between Heretic and the Doom twins is not just the improvements to the game engine but the addition of spells. The various offerings at your disposal throughout Heretic should be stored and used wisely. At the end of each level you may have noticed your spell count is reduced to just one of each – this

is to prevent total overkill in the later levels.

On your journey to the lair of D'Sparil many obstacles stand in your way. Objects needed to finish the levels are in places that you normally wouldn't find, but by using the look up and down keys and the Wings of Wrath, life can be a lot easier. If you're a Doom player don't fall into the habit of just wandering and killing randomly, use the extra features.

## Tomes of destruction

THE Tome of Power is without doubt the most useful of all the spells. This black book of magic boosts the attack potential of your weapon to a much higher level.

Even the claw orb and staff can be converted into flesh mincers of destruction with the Tome. Each weapon has its own ability and the effects it has on the various beasts depends on which creature you are attacking with which weapon.

## Staff

Pretty useless unless you get really desperate. At close range the charged staff can come in handy but only use the Tome if you're faced with anything bigger than a gollum.

## Gauntlets of the Necromancer

These super charged gauntlets behave in much the same way as the chainsaw in Doom. Pretty destructive close up and using the Tome it turns into a veritable food blender.

## Elven Wand

Good against small things and using the Tome the double shot can prove effective when you're fighting your way out of a corner.

## Ethereal Bow

This is effective because the arrows home in on their target, unless they move out of the way. When it's powered up, the quad fire streaking arrows are really powerful. One head-on blast against another human player can finish him off.

## Dragon Claw

This Claw of Doom literally rips your foes apart. You have to be a pretty good shot to make it effective but the powered up claw fills a room full of rebounding spiked balls that don't half smart. Beware though, the power shots take up five units of ammo.

## Hellstaff

Rain death down upon your enemy with the Tome of Power. Using the Tome the staff fires a single blast that causes huge amounts of damage as well as raining fire upon your target when the blast explodes. Great for slow moving creatures and cornered players.

## Phoenix Rod

My personal favourite. The smoking trailing Phoenix finishes off most of the creatures with one hit. During multi-player games get in close to watch your opponent's head come off and thud to the floor. The Tome changes your phoenix rod into a flame thrower of death.

## Fire Mace

Ball bearings aren't the first pieces of ammunition you'd ask for if you wanted to kill someone but they can prove quite effective. The rapid firing balls bounce downstairs and their sheer volume causes the damage. Alone, they're nothing to write home about. The powered mace is fun. Huge steel balls pop from the end and on contact with any beasts cause a heck of a lot of damage. During a multi-player game the balls teleport the player randomly to areas of the level and hurt somewhat. **PCH**





The hellstaff's rain of terror. Walk under this downpour and you'll get more than a little wet behind the ears



Charge the staff to give the beasts the shock of their lives



## SPELL CHECK

BELOW is the list of available spells in the registered version of Heretic and a few of their useful after effects.



### The Ring of Invincibility.

Pretty obvious really. Select this little beauty and nothing will penetrate your magical skin. Oh, and the screen goes a lovely amber hue.



### Shadowsphere

Invincibility to its friends. Enemies have a real problem getting you on the end of their weapons when you activate this. In fact they're positively cross eyed. Try to save these up for use just before you enter particularly crowded rooms and areas of high beastly activity.



### Quartz Flask

There is nothing more annoying in a multi-player game than meeting someone who has stocked up on these purple potions. With a hefty supply you can enter the heaviest of fire fights and have a chance of survival.



### Mystic Urn

No this isn't another nick name from Eric Morecambe but a life saving potion that replenishes your health from any level back to 100 per cent. Another brilliant addition to your spell pouch during heavy combat fests or post combat trauma.



### Tome of Power

The Tome will boost the power of all the weapons for a limited period. Even the most humble of staffs is transformed into an evil slaying death wand. A handy tip for all clucking multi-player contestants: If you are morphed into a chicken during play use the Tome to return to normal.



### Torch

Well, uh, when it's dark use it and it won't be. There are areas during a multi-player game that are shrouded in complete darkness.



### Time Bomb of the Ancients

Looks like an egg timer but is as friendly as a hand grenade. The Timebomb goes off fairly quickly after it has been dropped behind you and it's good idea to get out of the way before it blows and takes you with it. Particularly handy for dropping while you are being chased by a multi-player opponent.



### Morph Ovum

By far the best and most hilarious spell, especially in a network game. In the office all other vendettas stop and everyone joins in playing *Hunt the Chicken* – reduced hit points and no weapons, except for your beak. During normal play it's great for reducing nasty beasts to nothing but a small, clucking ball of feathers.



### Wings of Wrath

Take to the skies and blast the enemy from above. You move quicker too so it's always best to move in a circle and keep firing while facing the ground. When the wings begin to flas, find a safe landing place as you're about to drop!



### Chaos Device

By far the most annoying spell during combat. There you are laughing as your Phoenix blast heads straight for the other player's head, then *PUFF* he disappears. Yes, the magical chaos device can cause all manner of frustrations as you teleport out and re-appear where you found the device. Great for getting out of trouble.



# PC home

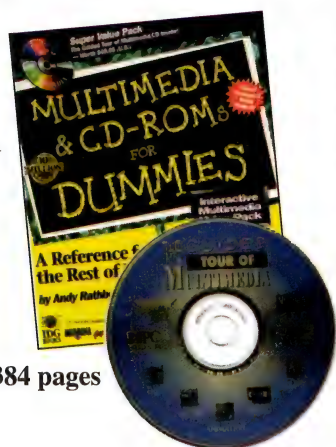
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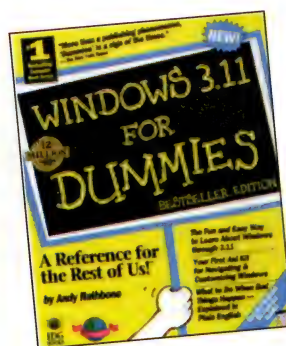


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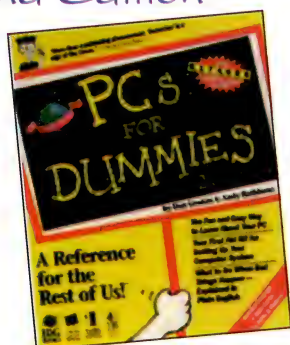


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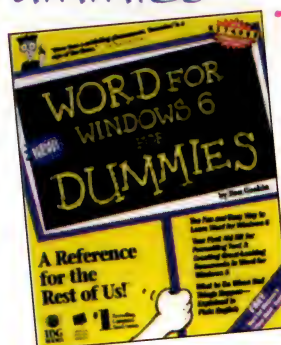


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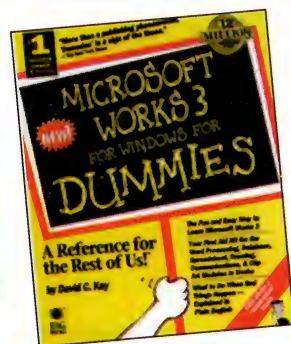


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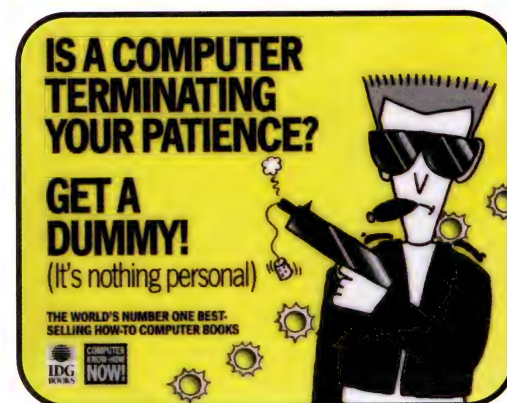
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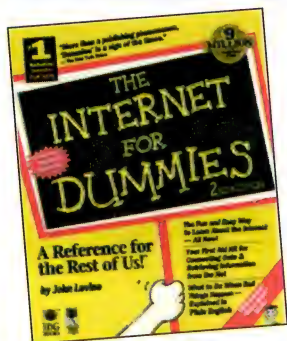
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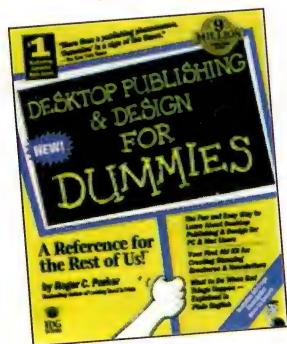


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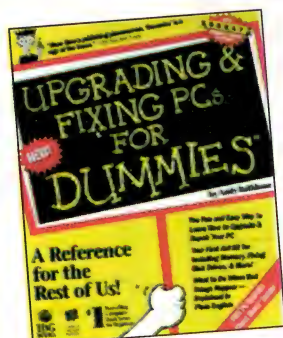


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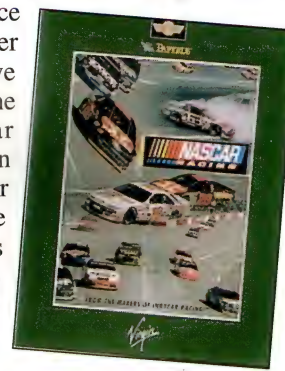
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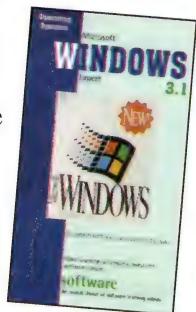
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UNLESS you've been in solitary confinement for the last six months you can't have avoided the barrage of commercials encouraging us to part with our cash for the third incarnation of IBM's OS/2.

The operating system once used by grey suited computer operators in the IT departments of large anonymous organisations is now being touted as the shiny happy user interface for all the family.

No longer the platform of spreadsheets and databases, OS/2 offers users "a new level of high performance gameplay currently not available in the Dos or Windows environments".

Almost sneering at our ignorance, IBM's publicity machine reels off hundreds of MS Window's failings and smugly explains to us why Warp is so superior.

The claims are as extravagant as they are numerous and it would take an eternity to address them all. The purpose of this review is to determine OS/2 Warp's suitability for the average home user's requirements.

# Warp speed

**Lance Concannon investigates whether OS/2 Warp can really provide a viable alternative to Windows for the home user**

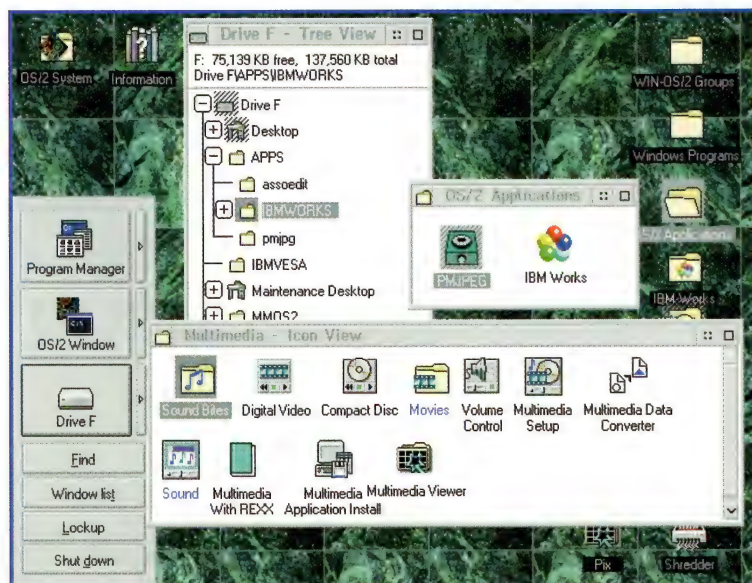
THE most logical place to begin examining OS/2 Warp would be the installation process. According to the literature all I had to do was select the Easy Install option and OS/2 would do the rest, it would automatically detect my hardware setup and configure itself accordingly.

This was true as far as the SoundBlaster 16 sat in my machine was concerned, but when it came to my CD-Rom drive and SVGA card Warp didn't want to know. A recent IBM press

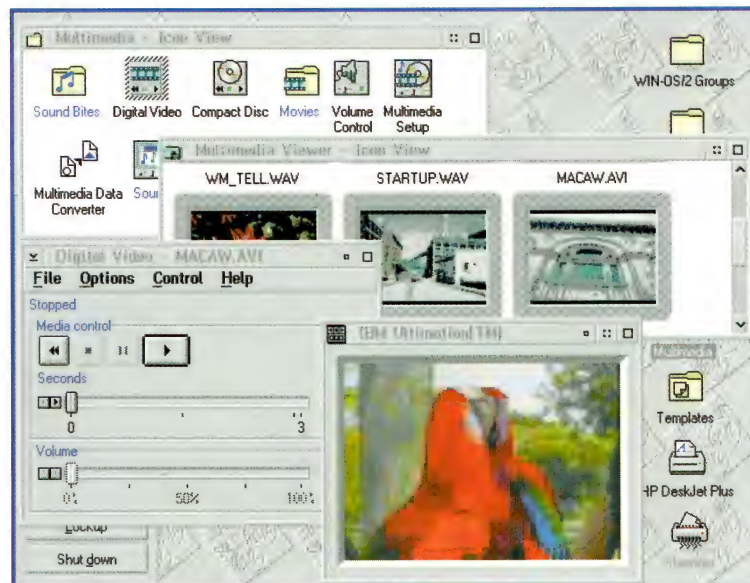
release enthused that Dell were to offer Warp as an alternative to Windows for their customers.

I found it interesting that the package was unable to detect the Number Nine Corporation SVGA card which came supplied with my Dell P60 and that the card came with no OS/2 drivers.

To add insult to injury Warp insisted that my machine was only capable of standard VGA graphics and that the only screen resolution available was 640 x 480 x 16. The Dell is also fitted with a



Warp offers user true drag and drop file handling



Warp's multimedia demonstration – a three-second AVI file



Sony CDU55E CD-Rom drive – a fairly standard model which Warp did not recognise automatically. A brief consultation with Warp's manual told me that I needed to copy a couple of drivers from the installation disks and add some lines to the Config.sys file.

One of the two drivers needed was not to be found on the disk indicated so I searched all 14 in vain. A scan of my hard disk revealed a file of the same name hidden in a subdirectory. This was duly copied to the stated destination and the extra lines were added to the Config.sys file.

Having double checked that I had done everything the manual suggested I rebooted the machine only to be informed that the rogue file did not contain a valid device driver. The vastly improved device driver support promised by the press pack failed to

reached IBM's software enquiry desk. All our agents are busy at the moment. Please try later". I did, several times, only to be given the same message. They're obviously very busy, lots of people must be having problems with their software.

Draw your own conclusions.

Another much touted feature of Warp is its ability to detect and fine tune automatically 100 of the best selling PC games as part of its installation process. On my machine it managed to ignore Doom completely and insisted that my screen grabbing software was in fact Electronic Arts' Seal Team.

Once installation had been completed and OS/2 was running I began to

today!" Whereas OS/2 is the Volvo of operating systems.

Although OS/2 looks similar to Windows it works quite differently, using true drag and drop technology in the same way as Apple Macintosh com-

## "...nothing more than a slightly updated OS/2"

puters. In Windows what you see on the desktop bears very little relation to what's really happening on the hard disk. You can delete a program icon but the actual files will still be there.

In Warp all files are represented by icons – directories and drives are fold-

IBM's PC Dos, the OS/2 command line and a dual boot feature. The first two are somewhat of a mystery as they're both essentially MS-DOS clones and I have yet to fathom the difference between them or the need to include both.

The dual boot feature allows you to reboot the machine into good old MS-DOS, assuming of course that it is installed. Unfortunately when I tried out this feature my machine crashed leaving me in a state of limbo where I could boot into neither Dos nor Warp.

After re-installing MS-DOS and enjoying the use of my CD drive and SVGA card for a while, I regrettably had to return to OS/2 by means of a command secreted in its system directory.

Feeling slightly more optimistic about the whole affair I decided to take a look at some of the high performance multimedia support promised by the publicity material. This consisted of a three-second long .AVI movie file which I assume featured a parrot – because the file was called Parrot.avi.

I could however be wrong – with only 16 colours available it was hard to tell. My search for further evidence of Warp's outstanding multimedia capabilities produced nothing but a handful of particularly uninspiring Midi files.

Warp may be good at running several serious applications side by side, it may well offer a better file handling system than Windows 3.xx but it is certainly not the high powered, home entertainment multimedia platform of the '90s IBM have been trying to pass it off as.

If they really wanted to target home users they should have completely redesigned the desktop to make it look more appealing.

Even with its funky new name, Warp is nothing more than a slightly updated version of the same old sensible OS/2 used for running spreadsheets and databases.

It's a fact of life that the vast majority of software aimed at home users is written for MS-DOS or Windows and while it may run perfectly under OS/2 there's no guarantee that it will. Whether IBM like it or not, this time next year the operating system on the majority of home users' PCs will be Windows 95, and rightly so. **PCH**

Product	OS/2 v.3 Warp
Price	£79.99
Supplier	IBM
Tel	01329 242728
✓	Good at multitasking and file handling
✗	Ugly, pain to install, not supported as well as its main rivals

**PCH Verdict** ★★★★★

# Mr Sulu

materialise. "Ring the tech support line", demanded the Ed. "Find out if they're any good and let the readers know".

I've had to deal with IBM's technical support department before, when I had almost exactly the same problem reviewing the previous version of OS/2 for another magazine. I have to say that on that occasion the guys there were very polite, patient and helpful.

When I tried to contact them this time I was given the message: "You have

understand why I'd been having problems. "What a complete twonk I am", I thought to myself "I've only installed version two by mistake, duh!".

But unfortunately my absent-mindedness was not to blame on this occasion, Warp uses the same dull, uninviting desktop as the previous release of OS/2.

Windows 3.1 presents users with a graphical front end that makes them think: "Yeah, let's get out there and click on some icons, I feel reckless

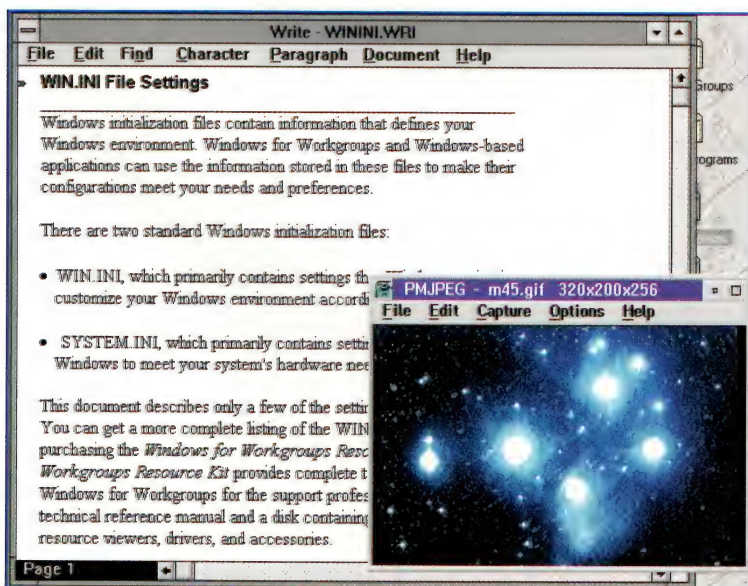
ers. This is a much more intuitive way of working and is certainly one of Warp's strongest points. To copy or move some files to a floppy, simply select them, drag them over to the corresponding folder and release the mouse button. OS/2 will then get on with the business while you carry on doing whatever you want.

This brings me on to Warp's second major selling point – multitasking. Theoretically Windows is a multitasking environment, but in reality any applications running in the background grind to a halt.

Warp, on the other hand, is quite happy to run several programs at once, just so long as you don't try anything too ambitious. I tried running Doom and Rise of the Triads side by side. Both programs loaded up easily enough but as soon as I tried to switch between them they both crashed terminally. In fact if you try running any application alongside Doom, the same result is achieved.

However, Warp is perfectly happy to do things like hauling large files between disks while you get on with downloading, wordprocessing or whatever takes your fancy. Depending on how powerful your hardware setup is, there isn't too much of a performance drop when running two or three packages simultaneously.

As well as its graphic interface Warp offers a selection of command prompts:



Warp can run most Windows applications as it doesn't have its own



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# Taking the Risc

**Has the PC been successfully  
bred with the Archimedes?  
Andrew Pewsey investigates  
the Acorn Risc PC**

HAVING two computers in one has long since been a wish of many users. Being able to run two or more operating systems on a machine has been possible for many years.

SCO Zenix runs on a standard PC clone and will sit in the same machine alongside Dos, though will not run simultaneously and that has been much of the problem. Getting two systems in one box is easy but getting them to work together is not.

Apple's PowerPC Macintosh machines boast IBM compatibility using the SoftWindows product. However, the cost of the machine in the first place is huge, plus the fact that you need around 16Mb to get it to run at an acceptable speed, and by that I mean something like a sluggish 386. Acorn's Risc PC, however, doesn't use software to emulate the internal structure of a 486 chip, it uses the actual processor.

Okay, so Acorn isn't exactly big time computing, especially if you're a hardened PC user. Let's be honest, you've probably never even heard of Acorn. You may just remember the BBC machines, perhaps even the Electron, but the new Risc PC is likely to be new territory.

What makes it worth your attention now, is that the base computer has been available for a year, but the PC card required to turn it into a dual-purpose machine has just been released at the snip price of £99 plus VAT.

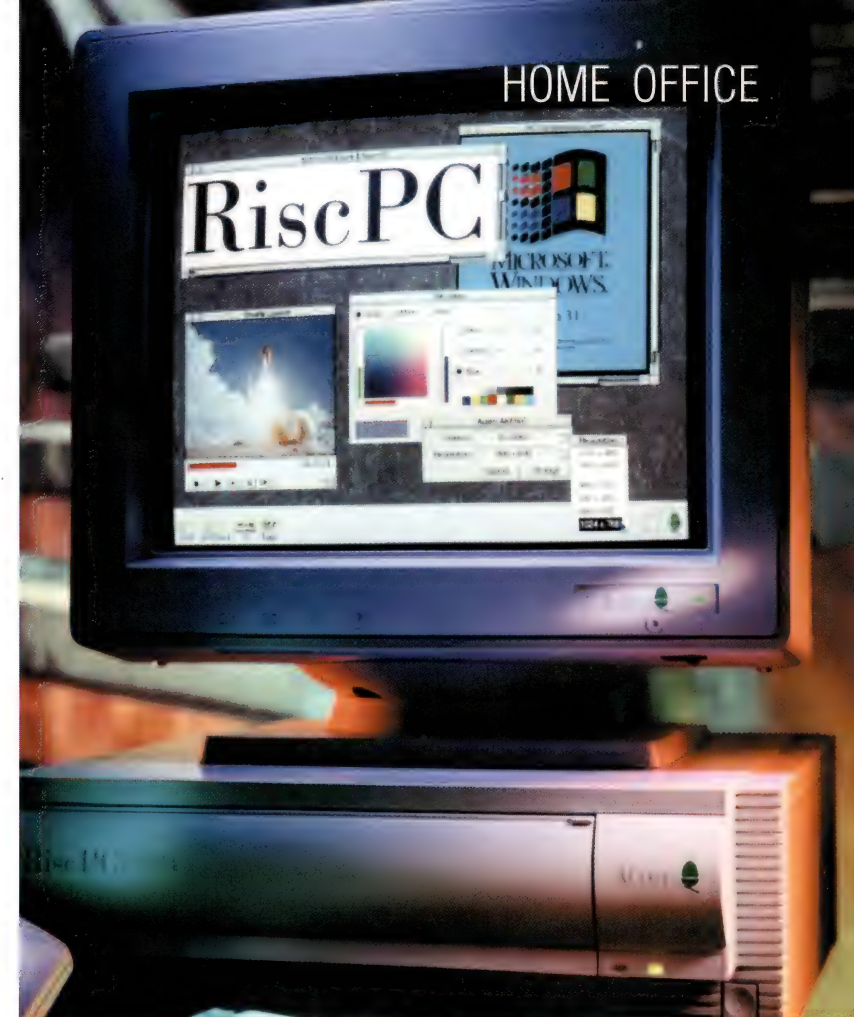
**E**SENTIALLY, the Risc PC is a full 32-bit computer running a Reduced Instruction Set Computer (Risc) chip at 30MHz – processor upgrades are to be released later this year. If 30MHz doesn't sound like much, remember that this is a 32-bit Risc chip and as such manages to operate at a speed that is on par with a 486DX2 66MHz.

The clever thing about the Risc PC is that its design allows two or more processors to share the integral components of the computer and even its casing is fully upgradable as it is supplied in slices which simply lock together without the need for screws.

The basic system allows you to connect two central processing units (CPU). These are not to be confused with the more standard CPU and co-processor situation of many PCs, they are fully independent processing units as you will find running any computer. You buy the machine with its native ARM610 32-bit Risc processor and for just £99 add the new 486Card as well.

Upgradability is the key to the Risc PC. All processors are easily connected and removed because they are housed on cards. These quickly plug into the sockets on the motherboard and you simply power up and install whatever driver software is required. It's then ready to run. Naturally, it's not all quite as simple as that, but it is close.

The Risc PC is a modular computer that allows for easy expansion. The



casing is made from strong ABS plastic in light grey and getting inside could not be easier. The entire case uses only a few screws, mainly to secure the power supply and floppy drive – the rest slots together like Lego and is held in place by four rotating locking pegs.

The case consists of slices of hollow plastic that offer one 5.25in mounting bay alongside a 3.5in bay and space for a two expansion cards. At shows, Acorn demonstrate machines with up to seven slices, containing a massive array of devices from magneto-optical drives to internal Nikon transparency

1,024 x 768. The system has a trick up its sleeve when it comes to memory management; it will address all unused VRAM as DRAM which can add anything up to an extra meg to the base memory of 4Mb.

## Compatibility

ACORN have always had a policy of continued development and are keen to stress that they, and their partners in this project, will continue developing upgrades for the PC card. This is good because at this pre-release stage, there are still a few things which are not possible with the current software.

If you're thinking of moving over the IBM's new OS/2 Warp, beware that the Risc PC 486Card will not support it initially. This is because the OS/2 installation software expects a real PC with

real PC features but does not receive the required responses from the hardware, basically because the architecture of the computer is not that of a real PC. However, it is very likely that a fix for this will be included as part of later versions of the PC driver software from Acorn.

Sound support with the Risc PC 486Card is quite poor at the moment, as it only uses the system beep. Again, future versions of the software, ⇨

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**“All processors are easily  
connected ... because they  
are housed on cards”**

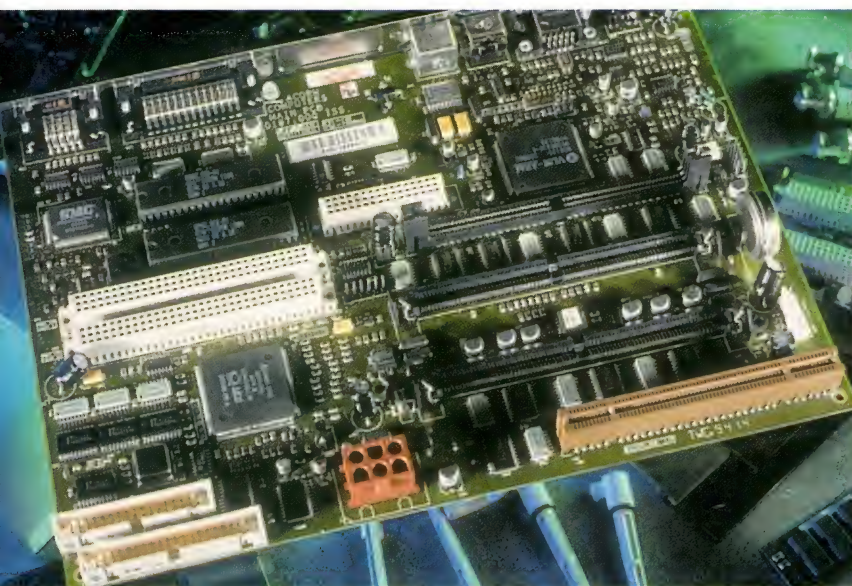
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scanners. The beauty of it all is that such mammoth machines can be pieced together with great ease and speed and no expert knowledge whatsoever.

The machine operates both DRAM and VRAM from the motherboard. It uses 72-pin SIMMs for memory and two slots are provided. The machine can access up to 256Mb of DRAM and 2Mb of VRAM. This allows 24-bit screen modes at resolutions up to



## TAKING THE RISC



expected in mid-1995, will overcome this and offer standard SoundBlaster compatibility, so long as you have a 16-bit sound upgrade installed.

Because the Risc PC is primarily an Acorn machine and something else – yes, the PC card is not expected to be the only second processor unit available, Mac cards are also possible, as are other processors – you cannot directly connect any existing PC expansion card, such as a graphics accelerator, sound card and so on.

However, a third party product is to be made available which will support these cards and it is even possible to access directly the cards using software running under the native Acorn Risc OS environment.

If you are wanting to hook your Risc PC up to a network, one of Acorn's partners in the PC card,

Aleph One, can provide Ethernet driver software so that you can use both the Risc PC and the PC 486Card on the network – though, you'll naturally need a copy of Windows for Workgroups or similar.

The catch is, however, that it can only provide the drivers for the ANT Ethernet adaptor range and no other third party. It seems likely, though, that other card manufacturers will offer support in the future.

The specifications of the PC card have altered during its production cycle and its release has been substantially delayed by queue jumping at the

Samsung silicon plant in Korea where the ASIC silicon is fabricated. However, cards should be shipping in quantity by the time you read this. Their specification is in the table below.

Acorn's partners in the PC project, Aleph One, have been creating plug-in PC cards for Acorn machines for a few years. These traditionally have taken the form of an expansion card which houses all the components of a real PC, right down to the memory – just like Apple's Houdini card which is yet to appear. The company are continuing with their PC card development and new, upgradable cards are

### The PC Card

Processor	Surface mounted TI 486SLX
Speed	40MHz (clocked at 33MHz)
Co-Pro slot	No
Upgradability	None (as yet)
Dos	PC Dos 6.0
Windows supplied?	No
Windows acceleration?	Yes
Colour depth	256 (24-bit with new software)



expected to appear before the end of 1995.

Considering that the Risc PC system can also support processors other than ARM and Intel-like devices, it is also conceivable that further machine compatibility will come along.

A PowerPC card is also in development, but such a card will not allow Macintosh programs to function as, according to Acorn's literature, Apple's licensing costs are prohibitive and "the failure of Apple, to date, to comply with PReP (PowerPC reference standard)".

In addition, a new multiprocessor upgrade card is being released by a third party very shortly. This will allow up to six processors to share the Risc PC's internal architecture and offer the potential for just one box to run software from many different environments. You can also plug in more than one ARM processor to boost seriously the throughput of the machine.

### Costings

THE price of the basic system is around £1,300 with a 14in monitor and 2Mb ram, but you'll need at least 8Mb of memory to run the PC card satisfactorily – remember the most basic Windows machine needs 4Mb and 8Mb to move at any speed.

Memory prices are quite keen and there's even a company in the Acorn market (Atomwide) who will give you good money for your unwanted SIMMS when you upgrade.

If you'd prefer to start off with a larger machine it will cost around £1,700 for 9Mb (8Dram, 1Vram) and a 14in monitor and £2,000 for the same configuration with a 17in monitor. The PC card will then cost an additional £99 if bought at the same time as the machine (£199 after). All quoted prices are exclusive of VAT.

This is a fair amount to spend, but Acorn's continued commitment to the platform also includes CPU upgrades at low prices. While you spend £200 and above on an Intel Overdrive chip which will, perhaps, double the performance, the next ARM chip, the ARM700 will cost around £100 and double the performance.

Further to this, Acorn have indicated that they will release the ARM800 processor during 1996, again doubling performance on the ARM700 and costing very little more. So, for around £2,000, you've got a machine with a guaranteed life of at least three years in terms of internal, inexpensive, user fitted upgrades. Can any PC vendor guarantee this?

## WHAT

THE range of Acorn 32-bit Risc computers has been available since 1987 when this British company released the world's first 32-bit, Risc micro-computer. Since then its operating system has had a few revisions and the software scene has flourished.

Back in 1988, when the Risc OS2 operating system became available, the WIMP system was quite revolutionary. Not only was the machine pretty fast, it would also multitask and used (and still does) an icon bar along the bottom of the desktop to show all of the loaded applications, a feature which is to appear in Windows 95 when it finally arrives.

Acorn machines continue to multitask and still manage to do it better than both Windows and MacOS. The system still employs the icon bar idea which allows objects to be saved from one loaded application to the other without having to use a disk – just like OLE in Windows.

Acorn machines are predominantly used in schools and more educational software is available for this machine than any other in the world. Most is geared towards particular areas of the National Curriculum, rather than being the predominantly American edutainment, but much of it also has specific uses in the home. Although more schools are now using PC and Mac machines, it is fair to say that nearly all primary schools still use Acorn equipment.

In a professional business environment, Acorn machines have a place





# HAVE ACORN GOT TO OFFER?

too. With the superb Impression Publisher package, it is possible to set up a low-to-mid end publishing system to compete with both the Macintosh and PC in small, professional, installations.

Indeed, with art software like PhotoDesk and ProArtisan 24, it is possible to compete at a higher level than ever before.

By default, the machine offers full 24-bit graphics and this software offer facilities for creating natural media images with relative ease and at cost which is far removed from that of applications like Fractal Design Painter.

The system also allows direct access to PhotoCD images, but should you prefer to scan your own, will also support Twain compliant scanners via an optional SCSI interface.

CD software in the Acorn market is a long way behind the PC and the majority of discs contain either shovelware, PD or educational software.

Nelson Multimedia have produced a number of very successful education discs in the past year, as has Yorkshire Television and Anglia Television and this brings us neatly on to the subject of Full Motion Video (FMV).

Acorn first introduced its Replay full motion video system in 1992 when they were the first major micro com-

puter manufacturers to achieve a good quality, standard audio and video replay without any additional hardware. Many applications have featured Replay clips since this time and the sequences can even be distorted and animated around the screen with the latest software releases.

If you're into home video production, you'll be interested in the exceptional quality of the Acorn FMV system. Using cards like the Eagle M2 and 24i16 along with editing software, you

demand via their subsidiary, Online Media, has resulted in the release of an MPEG decoder card, retailing at just £199 (plus VAT). With Mpeg at their fingertips, Anglia Television are to encode all future video clips for their education software in both Replay and MPEG formats

If music is your forte, how about Sibelius 6 or Sibelius 7? These composing and music publishing packages support Midi instruments and are so good that the Royal Academy of Music has bought a bunch of Risc PC machines, just to run the software.

How much recommendation do you need?

Multimedia is all about quality graphics and audio. In the past, Acorn machines were never particularly noted for their graphics ability.

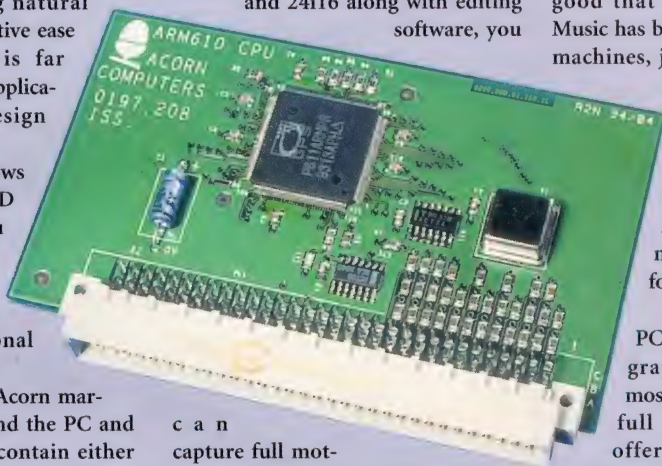
Today's Acorn (the Risc PC) is better equipped in the graphics department than most PCs as it is supplied with full 24-bit colour support, offering some 16.7 million colours, so long as you have enough VRAM.

Unlike Windows, the system also allows you to alter dynamically the screen resolution and colour density, without having to restart every time.

As a matter of fact, the Risc PC supports 32-bit graphics and uses eight data bits for control purposes such as transparency and hardware fading.



A wide range of Archimedes software offers educational products that follow the National Curriculum as well as DTP, games and creative applications



can capture full motion video sequences – together with fully synchronised, stereo, sound.

You can then edit and compress them for use as FMV clips with the Acorn Replay player system. Such a setup costs less than £500 which rivals the cost of similar (MPEG and video capture) configurations on the PC and wipes the smile straight off the face of the Mac equivalents.

Acorn's involvement with video on





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Good preparation is essential – be aware of your needs and how much you want to spend. With hardware state the model, name and be conscious of any optional extras. The more precise you can be about what you require the easier it will be to come to a decision when purchasing.

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Canon	BJC 600	599	360 x 360
Canon	BJC 800	1,995	360 x 360
Canon	BJ 230	299	360 x 360
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Citizen	ProJet IIC	279	300 x 300
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DEC	DEC MultiJET 2000	365	600 x 300
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Epson	Stylus Colour	656	720 x 720
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# TROUBLESHOOTER

**Adrian Worrall is armed and dangerous, primed to tackle your fiercest problems**

**GOT** a computing problem you don't know how to solve? Already tried the software or hardware companies concerned? Then this is the section for you.

No matter how small your query may be, we want to hear from you, and we'll try our best to answer it on these pages. If we can't, we won't just ignore your letters like other magazines might do, instead we'll throw the challenge open to our readers.

Don't forget we also want to hear about computing tips which you feel would benefit others. In return, in conjunction with Microsoft, we're offering some top software to the reader who sends in the most useful advice of the month.

Send in problems or tips using the form provided. You can use additional paper if necessary, but please include the form as well and remember to put your name on every sheet.

Also bear in mind that the chances of your query or tip being printed are greatly reduced when we can't read a word of your scribbled handwriting. If you want to submit a listing of any sort, please send it on disk.

## CD-WRONG

### System:



Opus technology 486SX 25MHz, 4Mb of ram, SoundBlaster Pro and a Mitsumi double-speed CD-Rom drive.

### Problem:



Our CD-Rom unit is not working and it does not respond to the E: command. The power supply is connected correctly because the light on the front of the unit comes on when the computer is powered up. Can you please help?

Adam Duran - Salford

### Solution:



The first thing is to check that you have all the appropriate software drivers loaded. You are looking for one driver in CONFIG.SYS and one in AUTOEXEC.BAT. First look at CONFIG.SYS with:

```
EDIT CONFIG.SYS
```

Look for a line that says LASTDRIVE= followed by a letter. If this letter is before F, change it so that it is F. Now save the file and re-boot. If this line was

OK you must try to find the CD drivers.

You are looking for a line that look something like:

```
DEVICEHIGH=C:\CDROM\MTMCDAE.SYS /D:\MSCD0001
```

If this is okay, move on to your AUTOEXEC.BAT file. If not we must find the missing driver. To do this exit from Edit and type:

```
DIR MTM*.*/S
```

This command will locate the driver on your hard drive. If you find one make a note of its location. If not, install one from floppy or ask your supplier. Once the driver is on your hard drive you can add it to the CONFIG.SYS file. Using Edit type:

```
DEVICEHIGH=C:\CDROM\MTMCDAE.SYS /D:\MSCD0001
```

substituting \CDROM for the path of your driver. Once this is done save the file, exit edit and then type:

```
EDIT AUTOEXEC.BAT
```

Here you are looking for:

```
LH C:\CDROM\MSCDEX /D:\MSCD0001 /M:3
```

As before, if a similar line does not exist, locate the driver and then add the

appropriate line. If you have carried out any of the changes listed above you must reset the computer in order for the changes to take effect.

If you still have not had any success, disconnect your computer from the mains and remove the case. Find the CD-Rom drive and check that the wide, flat cable in the back is pushed in correctly

If it is, find the other end of it and check that that is connected. If all seems to be in place it may be that the cable is connected the wrong way. To change this you may be able to remove either end from its socket. Turn the cable over and plug it back in. If it will only fit in one way on both ends, we must assume that it is correct.

If all seems well and you still can not get your CD-Rom to work, contact the supplier as your equipment may be faulty.

## MINUSCULE MEMORY

### System:



16 A.S.P.

Gateway 2000 486DX2 66MHz, 8Mb ram, Mitsumi FX001D CD-Rom drive, SoundBlaster

### Problem:



I am having difficulty in finding enough memory to run programs such as Under A Killing Moon. At best I can only get 524k of free conventional memory. I have tried using Memmaker but I can still not get more than this figure.

Can you please help me? I have enclosed my AUTOEXEC.BAT and CONFIG.SYS files in the hope that you can amend them.

### CONFIG.SYS

```
DEVICE=C:\DOS\HIMEM.SYS
DEVICE=C:\DOS\EMM386.EXE RAM HIGHSCAN
WIN=E000-EFFF WIN=CB00-CFFF
BUFFERS=15,0
FILES=8
DOS=UMB
LASTDRIVE=E
```

```
FCBS=4,0
COUNTRY=044,,C:\DOS\COUNTRY.SYS
STACKS=9,256
DEVICE=C:\DOS\ANSI.SYS
DEVICE=C:\DOS\SETVER.EXE
DEVICE=C:\WINDOWS\IFSHELP.SYS
DOS=HIGH,UMB
DEVICE=C:\PCIIDE\DTCT2130.SYS /DD:C1:L0:M8:P3
DEVICEHIGH=/L:1,5088 =C:\SB16\DRV\CSP.SYS
/P:220
DEVICE=C:\CDROM\MTMCDAE.SYS /D:\MSCD0001
/A:0 /M:4 T:S /I:11 /P:340
```

### AUTOEXEC.BAT

```
BECHO OFF
SET BLASTER=A220 I5 D1 H5 P300 T6
C:\MOUSEPEN\MOUSE /I /S70 /D100
C:\WINDOWS\NET START
CD\SB16
C:\SB16\SB16SET /M:220 /VOC:220 /CD:220
/MIDI:220 /LINE:220 /TREBLE:0
C:\SB16\SBCONFIG.EXE /S
CD\
C:\CDROM\MSCDEX /D:\MSCD0001 /M:3
KEYB UK,,C:\DOS\KEYBOARD.SYS
PROMPT $PSG
C:\DOS\SMARTDRV.EXE
SET MOUSE=C:\MOUSEOLD
C:\MOUSEOLD\MOUSE.COM
SET TEMP=C:\TEMP
DOSKEY
```

Graham Mort - Surrey

### Solution:



Take a look at the following files, give them a go and see the difference.

### CONFIG.SYS

```
DEVICE=C:\DOS\HIMEM.SYS
DEVICE=C:\DOS\EMM386.EXE 4096 RAM FRAME=E000
BUFFERS=15,0
FILES=8
DOS=HIGH,UMB
LASTDRIVE=E
COUNTRY=044,,C:\DOS\COUNTRY.SYS
STACKS=9,256
DEVICEHIGH=C:\DOS\SETVER.EXE
DEVICEHIGH=C:\WINDOWS\IFSHELP.SYS
DEVICEHIGH=C:\PCIIDE\DTCT2130.SYS
/DD:C1:L0:M8:P3
DEVICEHIGH=C:\CDROM\MTMCDAE.SYS /D:\MSCD0001
/A:0 /M:4 T:S /I:11 /P:340
```



## TROUBLESHOOTER

### AUTOEXEC.BAT

```

@ECHO OFF
SET BLASTER=A220 I5 D1 H5 P300 T6
LH C:\MOUSEPEN\MOUSE /1 /S70 /D100
LH C:\WINDOWS\NET START
C:\SB16\SB16SET /M:220 /VOC:220 /CD:220
/MIDI:220 /LINE:220 /TREBLE:0
C:\SB16\SBCONFIG.EXE /S
LH C:\CDROM\MSDEX /D:MSCD0001 /M:3
LH KEYB UK,,C:\DOS\KEYBOARD.SYS
PROMPT $PSG
C:\DOS\SMARTDRV.EXE 2048 2048
SET MOUSE=C:\MOUSEOLD
LH C:\MOUSEOLD\MOUSE.COM
SET TEMP=C:\TEMP
DOSKEY
    
```

Once you have installed the above, reboot your machine and type:

MEM /C /P

This will show you where all devices and drivers are sitting in memory. From this display you can see which drivers will load high and which will not. It may now be possible to load some smaller drivers into lower memory so that a bigger ones will load high.

As you can see I have removed some of the SoundBlaster drivers. These are only necessary for a limited number of software packages as most have their own. Although you can remove most of the SoundBlaster drivers you must not remove the SET BLASTER command as this tells the software where to find the sound card.

### CLEAR COLOURS

#### System:



Tiny 486SX 25MHz, 4Mb of ram and a 40Mb hard disk drive.

#### Problem:



I want to print in colour, especially when I see the on-screen results from packages such as Windows Paint. What printer should I buy so that I can get a good balance between quality and price? Will need to change the graphics software I am using?

P R Jeffers - Sussex

#### Solution:



The Hewlett Packard 500C has a reasonable balance between price and quality. Although this is not the cheapest it is definitely one of the best in its price range. It is a inkjet and has paper in and out trays

that will take everything from standard A4 to envelopes and overhead transparencies

Overall it's a very business-like printer. You should be able to buy one for a very reasonable price, and get change from £300. You will get excellent after sales service as HP are a very large and well established company.

You will not have to change the software you are currently using as printers these days come with all the required drivers. The 500C comes with some excellent Windows software that will make printing in colour or black and white very easy and trouble free.

### CHEAP INKS

#### System:



486DX 33MHz, 8Mb of ram, 540 and 130Mb hard drives, VideoBlaster S.E., SoundBlaster Pro, CR562b CD-Rom drive, Cirrus Logic 1Mb graphics card and Epson Stylus colour inkjet printer.

#### Problem:



As you can see from my system specification I have a Epson Stylus colour ink jet printer. I have read the manual and it says that refill kits for the cartridges can damage the print head. Is this true? Or can the cartridges be refilled with no damage to the print heads?

I can get the original cartridges for £10 for black and £19 colour and refills for £6 and £20 - but you get multiple fills. Is it worth buying the refills or should I stick to the originals?

M Lawrence - Barbry

#### Solution:



It is true that refills can damage print heads. This is mainly because of the different types of ink available, and each printer is designed to use a specific ink type. Therefore if you use the wrong ink it can cause damage.

If you buy a refill designed specifically for your printer there should be no problems. Check that it is specifically recommended and if the sales staff are not sure, go somewhere else.

The last thing that you must consider is the hassle of doing the refilling yourself. Black refills generally cause no problem but colour is a totally different story. If you are trying to get three or more different colour inks into one cartridge there is a high chance that at some point you may get some of the

## READERS HELP US!

Over the past few months I have heard from several readers who seem to be getting a clicking sound from their sound card, especially when playing CD games.

I have offered several solutions and have presented some provided by our readers. These have worked, in some cases, but we are still getting letters from those of you for who these problems are persisting.

Rob van der Linden from Holland has tried numerous ways to solve his problem. Here is a portion of his most recent correspondence.

#### System:



486DX2/50MHz, VL Bus mother board, Samsung 250Mb Hard disk drive, Cirrus Logic 5426/28 VLB 1Mb graphics card, SoundBlaster 16 Multi-CD, Matsushita CR 563 CD-Rom drive.

#### Problem:



After getting a new motherboard, BIOS, power supply and SoundBlaster 16 (my supplier is very co-operative) I am still suffering from a clicking sound from my sound card. The problem now only seems to occur when I am using games with digital sound effects.

If I only select the music option

and no sound effects there is no clicking noise. As well as the above mentioned changes I have also tried changing my CD-Rom drive, changing the video card to a Trident, moving the sound and video card as far apart as possible on the motherboard and changing the IRQ and DMA settings of the sound card. All these attempts have had no effect on the original problem.

I have spoken to Creative Labs who assure me that the problem is not caused by the SoundBlaster and I have also tried a local computer help desk. There they told me that they were familiar with the SB16/CD-Rom sound problems and they were related to the OPL3 chip on the SB16. The clicking noise, I am told, is caused when the sound card switches between 8 and 16-bit DMA.

#### Solution:



Keep hassling Creative Labs for some new drivers - they have released version 4.19 or 4.20 as you already know. If these do not solve your problems you will have to wait for the next release.

I can only say that you seem to have tried everything we can think of, so if anyone can come up with an alternative solution please let us know as soon as possible and we will pass it on to Rob.

colours mixed, and if this happens you may as well just throw the whole lot away.

### CYCLONES TROUBLE

#### System:



Tandon 386SX, 15in monitor, 8Mb of ram, Canon BJ10ex printer, 210 and 40Mb hard drives, Cirrus Logic GD5420 graphics card.

#### Problem:



I am trying to run the demo version of Cyclones. When I start the demo I see the presentations screens and the games logos. The computer then turns to a text mode and the following lines are displayed:

Mel Fatal Error#: 25 Trap#: 15  
Mel Protected Mode Version 2.2.5, 4/28/94

Can you please tell me what this error is and how to get past it?

Marko Laaksonen - Finland

#### Solution:



If my memory serves me well this is an out of memory error message. The Cyclones demo is a little temperamental with the memory setup it requires. I believe it needs just under 600k of free lower memory to run and also a fair amount of upper memory. The best thing is to play around with a boot disk until you get the memory configuration the game requires.

Once you have achieved the required memory, either boot from the newly constructed boot disk each time you get a problem or take a look at the *Memory Menus* reply given in the February issue of *PC Home*. This will help you construct a boot up menu so that you can select a different option to suit the amount of memory required.



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## TOP TIPS

**More of the best tips in the business – not from us, but from you, the readers, God bless ya. Send in your favourite tip and you could win a software package from Microsoft as our little way of saying thanks**

### CD-ROM ACCESS

If you are perplexed by the ability of your CD-Rom drive to throw out or not read certain CDs or parts of them, the problem is more than likely the drivers. I bought a SCSI CD drive from Silica Systems and also a Jazz16 SCSI 2 sound card. When I tried to access certain CDs, especially from within Windows, I used to get the error message *File not found* or *File corrupted*.

My problem was with the replacement to Microsoft's MSCDEX that was supplied with Corel SCSI. The solution therefore is to re-install the MSCDEX driver supplied by Microsoft.

To do this you must edit your CONFIG.SYS or AUTOEXEC.BAT file, whichever contains the driver CORELCDX.COM. All that you have

to do is replace the Corel driver with the Microsoft one. So if you started out with:

```
C:\DOS\CORELCDX.COM /D:MSCD0001
```

this would need to be changed to:

```
C:\DOS\MSCDEX.EXE /D:MSCD0001
```

If you are not sure where MSCDEX is located then, you will find it by typing DIR MSCD\*.\*/S at the route directory of drive C. – **Mr D Rowland, Somerset**

**PCH:** *This is a very good tip but we have found that people are also experiencing problems with versions of MSCDEX that are earlier than 2.23. To find out which version of MSCDEX you are running all you have to do is to type MSCDEX at the Dos prompt. If you are*

*experiencing problems and you are not running MSCDEX 2.23 you will find that it is supplied with MS-DOS 6.0 or later and Windows 3.11.*

*Alternatively try contacting Microsoft upgrades.*

### SLOW RESPONSE

This tip is in reply to the letter from I Bagley in the January 1995 issue of *PC Home*. The problem was that Windows kept giving a transmission retry error when trying to print.

The real fix to this problem can only be carried out in Dos.

This is very simple, all that you have to do is to add the following line to your AUTOEXEC.BAT file and all will be corrected:

```
C:\DOS\MODE LPT1:,,P
```

Naturally the path should be corrected for the specific computer. The two commas are vital and I don't think that the syntax has been changed since MS-DOS 5.0. Once these changes have been made you must save the file and re-boot your machine.

During boot up a message is displayed saying that a part of MODE has gone memory resident – it requires about 0.5k which can be loaded high.

The command tells Dos not to return an error message if the printer is busy, but to keep trying. After using this the problem should never occur again. I used to be asked about this error message two or three times a week when I was working on telephone support in a computer shop and this fix always worked. I am surprised it is not better known. – **M L Rowland, London**

### FILE ASSOCIATION

#### System:



Mitac 486SX 33MHz, 8Mb of ram, 210Mb hard drive.

#### Problem:



When I am using Windows and I click on a .DOC file it loads into PFS Window Works. This takes

a long time to load up and becomes a bit of a drag when all I am after is a little bit of text from a README.DOC file. I have read several books and can find no information on changing this, can you please help?

**A Coman – London**

#### Solution:



The problem is caused by .DOC files having an association with PFS Works. Changing this is simple. When in Windows, open File Manager by double clicking on the File Manager icon.

Once File Manager is open, click on File. You will now be presented with a

pull-down menu. From this select Associate. In the box that appears enter the file extension DOC and then from the list given select the program that you wish your document files to be automatically loaded in to.

For fast access choose Windows Note Pad. When all is correct click on OK. Now each time you double click on a DOC file it will open in the application that you associated it with.

### DIRECTORY DILEMMA

#### System:



I have an Ambra 486DX 33MHz with a Sound Galaxy sound card, Sony CD-Rom drive, 4Mb of ram and a 240Mb hard drive. I am running MS-DOS 6.0 and Windows 3.1.

#### Problem:



I have a file or directory on my hard drive that is shown only by a curly brackets { sign and I cannot access it from Dos. The RD { command seems to have no effect and I want to delete it. My second problem is very

similar. After installing Crystal Maze from one of your cover disks I wanted to delete it. After deleting the contents of the CMAZE directory and its sub directory DATA, when I tried to remove the DATA directory I was told that it was not empty. I therefore can not remove either the CMAZE or DATA directories. Can you please give me some clues on how I can do it?

**Alistair Pell – Abbeystead**

#### Solution:



Firstly I think the item you are trying to remove is actually a file and not a directory. So to remove it type:

```
DELETE {
```

If this does not work, try to delete it from within Windows. To do this start Windows and then open the File Manager. Once that you have located the offending file or directory, highlight it and then press the Delete key.

You will probably be asked if you want to delete it – just answer yes and it should be removed. The problems that you are having with the CMAZE direc-

tory can also be solved either in Dos or Windows.

This time the Windows solution is by far the easiest. Again in File Manager highlight the CMAZE directory and press the Delete key. This time when you are asked to confirm the deletion press the YES TO ALL button – you may have to do this twice to remove both directories. To remove the offending directories from Dos change in to the CMAZE directory and then type:

```
ATTRIB -R -A *.* /S
```

This command will remove all archive and read only attributes from the files in CMAZE and its sub-directories. Now type:

```
CD DATA
DEL *.*
CD..
RD DATA
CD..
RD CMAZE
```

Once that you have completed all these commands you should find that the offending directories have been removed. **PCR**



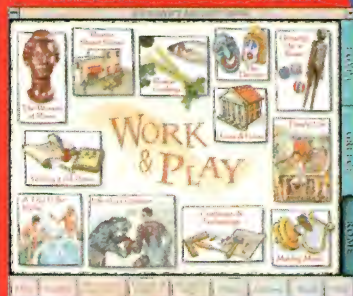
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To stand a chance of winning, just send us a tip which you think can help other readers. It can be software or hardware related, but no game hints please – send those to Pete Hawley for the Home & Dry section.

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### Cut out this form or make a photocopy and send to:

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Please mark the document clearly for the attention of PC Home. Feel free to use

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We regret that we cannot answer queries over the telephone, nor can we provide personal replies by letter or fax.



## Part 5

**Wayne Russell strides manfully onwards with his handy guide to the intricacies of QBasic**



# Taming the Beast

I MENTIONED back in the second article in this series that we would cover the New SUB and New FUNCTION items on the QBasic Edit menu later on. Well, the time has come. We now know about loops, conditions and variables – the big three. Here we'll look at structuring our code in a professional way.

**B**EFORE we get going, let's ask ourselves just what's wrong with what we've done so far. Well, nothing, but then we've not done anything really tricky yet.

Our biggest program was only 10 or 15 lines of code, so just coding it from start-to-finish in one chunk was the most appropriate way to do it.

What if we had 100 lines of code though, or 1,000? Real-world programs are sometimes hundreds of thousands of lines of code. You can't code a large program in-line, as it's called, because it would be a nightmare to work with – think about trying to find the one line with a bug in it out of 10,000.

There is another consideration as well. Often, you will write a bit of code that is re-usable – a basic example might be a few lines of code to clear the screen and set the

screen colours to some default values.

Your program might need to do this several times, and it would be a bit pointless to rewrite the code every time it was needed.

Moreover, what if you decided later to change the default screen colours? You'd have to change the program in several places, which is both more work than necessary and an ideal way to introduce bugs!

All programming languages provide ways to break a program up into logical chunks that can be re-used as necessary.

QBasic provides three: Subroutines, sub-procedures (abbreviated to SUB) and functions.

I don't propose to cover subroutines at all – the panel opposite explains why – but the other two are very interesting.

## Don't use subroutines!

THE problems associated with coding large programs in-line – all the code running from start to finish in one huge lump – have always been there. Modern programming languages – including QBasic – provide some very elegant solutions. The languages of the 1970s and early '80s merely provided solutions, and some of them were pretty clunky. The Basic subroutine is just such a clunky solution.

QBasic supports subroutines so that very old programs written in GW-Basic or something similar will still work. You should not use them in your own programs, however.

This kind of advice always makes people ask why not? That the problem is that they do not support local variables or passed parameters – this will make more sense after you've read the entire article.

### SUBS

QBASIC sub-procedures are a way of completely isolating a given bit of code into its own area, while still allowing full access to that code from your main program. Following on from before, let's consider a QBasic sub-procedure that clears the screen and sets it up to print bright white characters on a blue background.

The necessary code might look like this:

```
COLOR 15, 1  
CLS
```

All right, we haven't covered these statements before, but they're pretty simple. The COLOR statement sets colour 1 (blue) as the background, and colour 15 (bright white) as the foreground colour. The CLS statement simply clears the screen using the current defaults – bright white on blue.

Isolating these two lines into a QBasic sub-procedure is very easy, and there are two ways to do it:

- Use the mouse or cursor keys on the menu to select Edit/New SUB, then type the SUB's name into the pop-up window – for this example, use the name ClrScrDft – meaning Clear Screen to Default colours.

- Alternatively, a quicker way is to type SUB ClrScrDft in the main code window – QBasic will know that you want to define a new sub-procedure, and will put you automatically into a separate area.

You will now have a separate code area with the word ClrScrDft as the heading of the window. There will be the lines SUB ClrScrDft and END



## Big deal?

I'M sure there are people who read the section on using sub-procedures and thought, so what? How much more effort is it to type `COLOR 15,1; CLS` than `ClrScrDft`? Even though, in this particular case, there's not much in it from a saved-typing point of view, there are a number of very good reasons why it is better practice to use the sub-procedure method:

- If you need a change, you only have to make it once. This is obviously going to save a lot of time if, for instance, you clear the screen from 50 different places in your program, but that's only half the story. If you have to make 50 identical changes to 50 identical bits of code, it is more than likely that you will mess one or more of them up.

- The code is more self-explanatory. In this particular case that's not really seen, but how about a sub-procedure that recalculates mortgage interest? A single line saying `RecalcInterest` is a lot more helpful when you come to look at the program later on than 15 lines of arcane arithmetic.

- You have isolated a useful function out on its own in a way that means you will never have to write it again. You will never have to remember what the number for bright-white is, or whether the foreground or background number comes first.

- Finally, the obvious one that will have occurred to most people. This is a very simple example: Real-world SUBs might be hundreds of lines of code, and might be called from 10 or more places in your program. The saved effort all round becomes clearer when this is understood.

**SUB.** You now add your code between these two statements, so the entire sub-procedure says:

```
SUB ClrScrDft
COLOR 15, 1
CLS
END SUB
```

That's it. You now have a reusable sub-procedure that you can call every time you need to clear the screen to white on blue.

To get back to the main program, select menu option View/SUBs, or press F2. This gives you a list of program items – you should notice Untitled and `ClrScrDft`.

If you move around with the up and down cursor keys, you will see a message at the bottom of the window telling you the status of each program item – Untitled is the Main Module and `ClrScrDft` is a SUB in Untitled.

Press Enter when the highlight bar is pointing at Untitled to get back to the main program.

You can use this list of SUBs (functions also appear on the list) to jump around between your main program and your various sub-procedures and functions.

QBasic functions are exactly the same as sub-procedures, except that they return a value and can be used

in expressions. Before we look at how useful this is, we need to cover the ideas of local variables and parameter passing.

Each sub-procedure or function is entirely self-contained – in effect, it's like a separate little program. Unless you specifically take steps to make things otherwise, every variable referred to in a sub-procedure or function is *local* – the value of the variable is only visible to that sub-procedure or function, and is lost when the sub or function ends.

### Local variables

THIS means that every separate sub-procedure or function's variables are wholly separate from the rest of the program – if your main program has a variable called *Var1* and one of your sub-procedures also has a variable called *Var1*, they are different variables!

Most beginners view local variables as a monstrous inconvenience – when you're expecting a sub-procedure to update variable *Count* in the main program and it isn't doing so, it can take a while to work out why.

However, using local variables allows you to develop sub-procedures and functions entirely separately from one another – this modular approach is used extensively in professional software

development. You can write a sub-procedure as if it were a program in its own right, and when it is finished, tested and working, move it into the main program without any further changes – this is not usually possible with languages that do not support local variables.

Most programs need global variables – that is, variables that can be seen and changed by the main program and all the sub-procedures and functions.

QBasic allows global variables with the `COMMON SHARED` statement – just provide a list of global variables, separated with commas, like this:

```
COMMON SHARED Var1, Var2, Var3
```

### Parameters

SINCE sub-procedures and functions have their own private variables, how do they talk to the rest of the program? Well, we could have a couple of enormous `COMMON SHARED` statements at the start of the program.

This would make all variables global, and thereby take away a lot of the point of using subs and functions! Alternatively, we can pass parameters to our sub-procedures and functions.

To use parameters, we have to declare the subs and functions in advance, so that QBasic can determine whether we are passing the parameters correctly.

Once this is done, you can use your own functions as if they were an intrinsic part of QBasic itself – this is an idea borrowed from the C language.

To see how this works, let's imagine that you need to calculate the total sum repayable on an investment account after a fixed number of years using compound interest.

Wouldn't it be nice if QBasic had a function that could do it for you? Something like:

```
Total = CalcReturn(Investment, InterestRate,
NumberOfYears)
```

Well, the good news is that QBasic provides exactly this function – all you've got to do it write it!

The main program would look like this:

```
DECLARE FUNCTION CalcReturn(Investment,
InterestRate, NumberOfYears)
```

```
INPUT Enter the invested sum: , Inv
INPUT Enter the interest rate: , Intrate
INPUT Enter the investment term (no. of
years): , Noyears
```

```
PRINT CalcReturn(Inv, Intrate, Noyears)
```

```
END
```

Note that you can use the `CalcReturn` function anywhere in an expression, and any variable names you like as the parameters – as well as PRINTing it directly, all the following are valid:

```
Total = CalcReturn(v1, v2, v3)
DoubleTotal = CalcReturn(a, b, c) * 2
IF CalcReturn(Investment, Interest, Term) <
15000 THEN ...
```

Now you need to define a new **FUNCTION** (use the mouse on the menu bar to select **Edit/New FUNCTION**), and write the code:

```
FUNCTION CalcReturn(Investment, Intrate,
Years)
```

```
work = Investment
multiplier = 1 + (Intrate / 100)
```

```
FOR a = 1 TO Years
work = work * multiplier
NEXT a
```

```
CalcReturn = work
```

```
END FUNCTION
```

As you can see, the parameters are available to you exactly as they would be if they were global – the difference is that these are local copies that are thrown away when the function ends.

I will assume you can understand what the meat of the function is doing – simply running around a loop for the appropriate number of years, uplifting the investment amount by a fixed percentage for each year.

The line `CalcReturn = work` is the one that passes the return value back to the main program. The rule is to set a pretend variable with the same name as the function – if our function had been called `XYZ` rather than `CalcReturn`, we'd have said `XYZ = work`.

That's it on subs and functions. If you're like most beginners, you'll see them as an inconvenience at first, but work at it – being at home with functions in particular is an extremely valuable asset if you want to progress to Visual Basic or C.

● If you have any questions about this series on QBasic please send them to me at CompuServe address 100430,1236 or on the Internet at [rus-sell@smartarts.win-uk.net](mailto:rus-sell@smartarts.win-uk.net) – or via the magazine if you don't have access to E-mail. **PCW**



# WRITE HOME

## Duncan Evans replies to your letters on LucasArts, mail order, that darned Mike Oldfield CD and more

### MAIL ORDER CHARTER

I WAS interested if not surprised to read Ian Robert's letter in the February issue of *PC Home*. His unfortunate experiences when buying mail order from computer companies seem to be very much the rule rather than the exception.

And although I would whole-heartedly advocate your advice always to use a credit card for such purchases, what should be a simple straightforward transaction often becomes an absolute nightmare of phone calls, broken promises, tense nervous headaches and more phone calls.

Over the past 12 months I have ordered several items of hardware from various mail order suppliers, and on each occasion I have been badly let down. I guess I should count myself lucky that I did eventually receive the goods, but the service has been appalling.

I won't go into graphic detail of the various problems encountered, but the one thing that really wound me up was that countless promises of return phone calls were broken time and time again. All I ever wanted was to be kept informed, but rarely did this happen.

I would like, through your magazine, to appeal to all of those mail order companies whose service falls more than a little short of perfection. I have written the following brief list of ways in which they might get their collective act together, and it's worth pointing out that happy customers will not only make their lives more pleasant, but will also make their business more profitable.

- If you don't carry vast amounts of stock, don't claim to do so in your adverts.

- If an item isn't in stock when an order is placed inform the customer there and then, and also give a realistic idea of delivery dates. If the item takes longer to arrive than anticipated keep the customer updated.

- If customers phone with queries don't tell them you'll call them back just because you can't be bothered to look into it. I make a point of never again using a company who don't have the common courtesy to phone me back. If you are genuinely unable to answer the query as quickly as you would like to, phone the customer and say so.

- Don't debit a customer's credit card account until the goods are dispatched.

Just to redress the balance a bit, and so you don't write me off as a complete Mr Angry, I would like to sing the praises of virtually every shareware company that I've ever used.

In complete contrast to the big boys the service is second to none. I would like to single out Transend who are based in Bradford and who have never taken more than three working days to fill an order for me – excellent stuff. – **D. Griffiths, Kent**

PCH: Some excellent suggestions Mr Griffiths, though your experiences with mail order companies aren't borne out by the majority of readers who find that they are usually reliable.

*It's the few cowboys that give the rest a bad name, although all mail order companies could do with following your charter to keep the customers happy.*

### CARPET MANIA

SINCE 1986 I have been an intensive user of MS-DOS based computers. In those days the majority of PC applications were business orientated – Windows ran with two 5.25in drives.

With the arrival of faster processors it has become possible to achieve almost perfect fluent 3-D gaming. In view of this, I now use the following configuration: AMD 486DX2 66 MHz, 8Mb ram, Cirrus Logic VLB graphics adapter, Western Digital 730Mb HD, double-speed SONY CD-Rom.

Currently many 3-D games have both an in-depth gameplay and a sufficiently quick operation (Doom, Inferno, TFX). With your advice in mind I immediately bought Magic Carpet. It promised to have an excellent 3-D engine and a far more subtle concept than Doom. However, it has a very annoying aspect – it is eating too much processor power.

With my specifications it runs well with few monsters and simple surroundings. But if I'm flying over my castle while it is attacked by a huge swarm of bees the frame rate runs down very drastically – two to four a second, even in the most simple graphics setting. This spoils the gameplay completely. Doom still runs very smoothly, even when you're attacked at the same time by 20 or 30 monsters.

PC Home rate the graphics and gameplay. People who buy Magic Carpet think your score reliable – I certainly agree with them. But if your aim is to give a completely objective and really reliable overview, you should also add a clear mark for the necessary machine speed.

The speed should be measured when games are in full swing. With a Pentium 90 MHz PCI the gameplay and graphics may be rated high, whereas the same running on a 486 DX33 VLB has the speed of a snail. In the reviews, machine speed ought to get more attention.

Okay, in a couple of years Pentiums will be as widespread as

486DXs are now. But then the same problem will still exist. In the near future 3-D games will demand computers that can handle complex products easily in SVGA – the Pentium will reach its limits as well. Probably we have to wait for future processors that can cope with this.

It's up to you as game reviewers to find out a standard testing so that the required machine speed for a particular game can be measured. – **R. Boekhout, Netherlands**

PCH: I tend to agree with you on this one. All our reviewers have now been instructed to remember the standard PC configuration of 486SX rather than the Pentiums currently sat on their desks. Magic Carpet is a next generation game without a shadow of a doubt, and only really performs to its peak on a Pentium.

### MEDIA MAN

I AM one of the new breed of computing public, having been tempted by all that multimedia and CD-Rom devices have to offer. I bought a Compaq Presario 520 486SX, 66MHz with 4Mb ram and 420Mb hard drive in November and it is a brilliant machine. However, I foresee major difficulties for comparative novices like myself when this business really takes off.

Firstly, at least 50 per cent of the CD-Rom (and floppy) software that is given away on magazines either refuses to run or requires some special tinkering with the memory configuration and startup files.

The floppies on your February 95 issue are a classic example with DrawPlus and others simply refusing to load up. The only gem I have managed to extract so far is Jackpot and the numbers didn't come up on Saturday night.

Now I am fairly bright but there is so little advice around these days about what to do with your Autoexec.bat and Config.sys that it is enough to confuse the best of us, heaven help the complete novice.



How about some clear direction for the absolute beginner – or have I missed it in a previous issue?

Secondly, when I tried to contact the manufacturers of the hardware – I suspected a fault with the sound card – the call was answered by a robot and I was stuck in a queue listening to never-ending piped music.

I looked through all the literature supplied with the machine to write a letter and nowhere does it provide their UK address. Eventually I tracked them down to Richmond, Surrey but now, 27 days later I have still not had the courtesy of a reply.

This is the Number One UK computer supplier. Is this how they manage to provide free technical support for the first year, clearly on a very tight budget?

I think your mag is great, it's newsy, informative and is not packed out with ads – who wants to read about the spiralling prices of Pentiums when you have just lashed out a fortune for your present machine? But please have a thought for the new breed of PC users who are going to need all the help they can get on the information highway.  
– C. Kostyrka, Kent

PCH: It's a sad but true fact that if you want to get the best out of your PC you're going to have to get to grips with Config.sys and his chum Autoexec.bat.

If you can't reconfigure your PC memory, or at least configure it so that it will work with almost any application, you will find very little working as PCs shipped tend to have little base memory configured for some reason.

Try running MemMaker – just type it in at the Dos prompt – and this will help you get going with more free base memory. I'd also advise you refer to our February issue with its cover feature, Tune Up, Tune In, which is packed with memory management hints and tips.

If you still have problems with our cover discs please ring the Megadisk hotline and they will try and sort you out.

As far as Compaq are concerned, they operate an excellent telephone technical support helpline, but because many machines are going to first-time buyers there can be a wait until you get through.

The helpline people are much more able to help you by speaking to you over the phone, which is why an address is not listed, and it's unfair to expect a response that way when it isn't part of the service.

Having said that, I think that

companies should monitor how many people are on their phone queues and if people are consistently waiting for more than two minutes to get through, they should employ more telephone staff or put more lines in.

## OLDFIELD PT 2

HAVING read the interview with Mike Oldfield in issue 29, I rushed out to buy his new CD album on the strength of this article which clearly stated:

*"The album contains a CD-Rom program which can be played from the disc, giving the user an interactive program to play alongside the music. Images that fit the music the way the originator, Mike Oldfield, intended"*.

I placed the CD into my CD-Rom drive and typed DIR to find the name of the program to run, only to find the message: CDR101: Not ready reading drive D, which means that there is no program on the disc.

Why did you state that there was a program on the disc when there quite clearly is not? If it is a limited edition of the album that carries the graphics program why was this not stated? – M. Hazell, Gloucester

PCH: The reason we've printed this letter, having already commented on the Mike Oldfield situation, is that further detail has come to light. In the case above the reason why the CD drive didn't find the computer track is because it was for the Mac.

Anyone accidentally buying the CD with the Mac track should return it to the shop from which they bought it and ask for a refund or an alternative CD, as it won't play the computer data on their PC.

The confusion has arisen because there is a PC version of the Mike Oldfield CD, and it's on sale in the USA and Europe, but for some reason, which the record company wouldn't discuss, it hasn't been released here.

The author of the article spoke again with all the parties concerned and they assured him that the PC version would be available.

Our advice is to go back to the shop the CD was bought from and ask if they have the PC version you can swap it for.

If they don't have it in stock, demand a refund, and try shops which specifically import CDs.

The fault for all of this lies squarely with the record company who released both formats overseas but stupidly only put out the Mac version here initially. **PCH**

## CONTACT POINT

WHEN you write to *PC Home* please use the following list to address your queries to the most appropriate department:



### GENERAL LETTERS AND TECHNICAL PROBLEMS

Send your general letters on any subject under the sun to Duncan Evans, Editor, *PC Home*, IDG Media, Media House, Adlington Park, Macclesfield, SK10 4NP.

If you have a technical problem or a good tip to share, use the form in our Troubleshooter section of Workshop and send it to *PC Home* Troubleshooter at the same address.



### NEWS LINE

If you have a hot breaking story that you feel *PC Home* should be aware of, contact Will Sargent on 0625 878888 during office hours.



### GAME SOLUTIONS

Got a complete game solution? Know some good hints or cheats? Write to Pete Hawley, Games Editor at the usual *PC Home* address.



### SHAREWARE SUBMISSIONS

If you have a dynamic new product that you feel could benefit our MegaDisk, write to Adrian Worrall at the usual *PC Home* address.



### FAULTY DISKS/CD-ROMS

If you receive a faulty cover disk it will be replaced free of charge. Contact PC Wise, Dowlais Top Business Park, Dowlais, Merthyr Tydfil, Mid Glamorgan CF48 2YY.

If you damage a disk yourself, include a cheque/postal order for £1.85 (per HD 3.5in disk), £2 (CD) and send it to the same address. If the disk was damaged in transit, return it to Europress Direct, Freepost, Ellesmere Port L65 3EB.



### SOFTWARE PROBLEMS

If you have any problems running any of the software on the MegaDisks or CD-Rom, contact our helpline on 0625 858084.

## SUBSCRIPTIONS AND BACK ISSUES

Contact Database Direct on 051-357 1275

Unfortunately, due to our workload, we cannot accept phone calls except where stated above and we cannot reply to letters individually.



# I LEARN'T ABOUT...

new  
series

**M**Y hard drive was filling up. It's a common occurrence, no matter how big your hard drive actually is. As my PC gets used by my wife as well as myself it regularly fills up with all kinds of applications, many of which are reviewed once and never loaded again.

So it was time for some pruning, a judicious use of Deltree, to clear away the dead wood and free up some space. Now, we'd looked at a series of music packages in the recent past, all with directory titles like Beethoven, Classical, Wagner, and so on.

Right I thought, don't need those any more, delete away. I came across one directory called Mozart, so I deleted that as well. After a session of deleting I Defragged the hard drive to optimise the files left over.

## Error report

THIS all went fine until a couple of days later my wife called downstairs that the CD drive wasn't working and it was giving a strange error report. After the usual casual banter of *sort it out yourself I'm watching Star Trek: TNG* I relented and went to see what the problem was.

CD drive not responding. Retry or Abort? it asked. Retrying produced no effect so it was the Abort option and a non-functioning CD drive. So what was wrong with the CD drive? I had absolutely no idea why it had suddenly stopped working since it was fine the last time I used it.

Okay, let's do a step-by-step boot and try and see what's going wrong as Config.sys and Autoexec.bat loaded. Resetting the PC I pressed F8 when it announced MS-DOS was loading. This lets you step through each line in turn.

Aha! An error on line 8 reporting a missing driver, followed by the CD failure later on. The CD drive is connected to the sound card, which is why when that didn't initialise, the CD drivers couldn't find the CD drive through it.

Why had the sound card driver gone missing? I listed Config.sys to find out what directory it was in and the truth became known. Aaagh! What kind of idiot calls a sound card Mozart.

## Duncan Evans kicks off a new series with a tale of sound card woes

Halfway through typing in the word Undelete I remembered I'd defragged the hard drive and was going to be very lucky to recover those files. I wasn't very lucky, they were completely gone.

Right, where did I put those installation disks? In the PC box? No. In the speakers box maybe? Nope. On the shelf with all my other really important disks that I certainly don't want to lose? Not a chance. I couldn't find them at all, even though I found every single piece of paper which came with the PC.

Eventually I despaired of ever finding them and decided to install a new sound card. The first one I pulled out of a box promised to offer everything you could ever want. Wave Table synthesis, General Midi compatibility, SoundBlaster 16 emulation, the lot. But it didn't have the right CD drive connector.

Scrap that – next it was the Gravis Ultrasound Max. A gorgeous sound card, with three different CD interfaces,

and sensational native music and sound effects. It worked with Windows, it worked with Dos, and it worked with Doom. But it didn't work with the CD drive. Why? I don't know. It just didn't. It wouldn't recognise it. Despairing of ever getting any work done at home again I gave up and went on to the next one.

## Cluck, cluck

THE Chicken Blaster 16 - named changed to protect the innocent here - was next. In pidgin English it explained that there was very good SoundBlaster emulation, and that if only I added the optional extra daughterboard I would have access to the wonderful world of Wave Table synthesis.

Except it wasn't available just yet, which meant it was a Far East 16-bit clone of the 8-bit SoundBlaster. But it did work with my CD drive. Hurrah! And it sort of worked with Windows, in a scrappy, hiss-ridden way which made

you flinch every time any sound came out of it. But it didn't work with Doom.

By this time I was despairing of ever seeing a sound card and my CD drive working together again. A few days later I was speaking with some technical johnny at Gravis about the non-ability of connecting the two when there was a knowing *aahhh* sound down the phone.

"You'll be wanting to specify this special code that makes it work with your CD drive then", he said. "Indeed", I shouted, overjoyed, assured that the Ultrasound Max and my CD drive would be happily communicating. Where's the Ultrasound card? I asked the chaps in the office? "Oh", said Will, I've lent it my brother, and he's on holiday for the next two weeks".

Later that evening as I was salving my bruised knuckles, I wanted to find a specific CD with a favourite shareware game on it. Um, it's under this desk in a shelf unit, where I put all my really important CDs a year ago, and have never looked at them since, I thought. Lo, and behold, on the top of the pile were the original sound card installation disks. One installation later, normal service was resumed.

## I learnt...

THERE were a couple of things I learnt about sound cards from this experience, and they were:

- Keep your important disks in a box on a shelf in plain sight
- Always ring the manufacturer's help line because if you have a problem, someone else has probably already had it and they might know the answer.
- And finally, beg, steal or borrow a Windows Uninstaller. Only the Gravis Ultrasound Max had a sophisticated enough installation routine to take out other sound card information from Windows setup.

The chances of conflicts are quite high when you stick three different cards with three different Windows installers into the same PC in one day. So, before you install a new card, uninstall the previous one, and it will make the chances of it working properly much higher. **PCB**



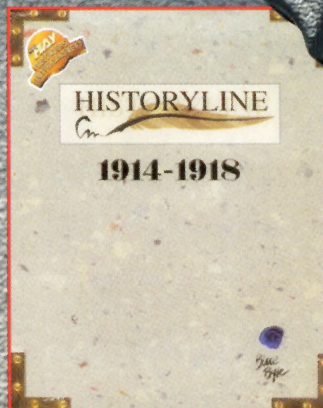


# BLUE BYTE

## THE HEAVY WEIGHTS



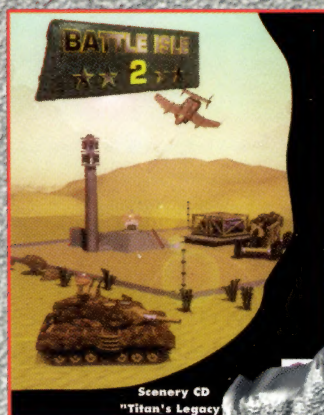
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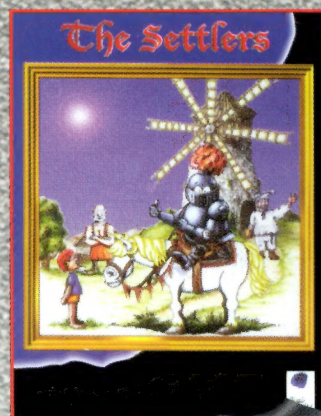
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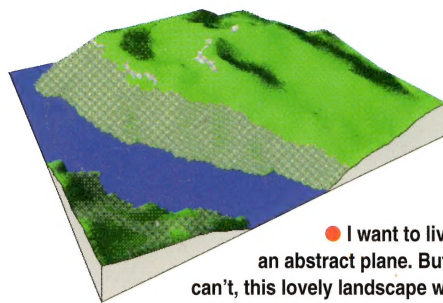
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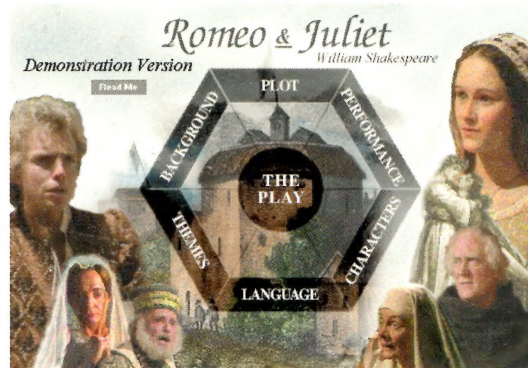




# PC home CD edition 600Mb



● I want to live on an abstract plane. But if I can't, this lovely landscape will have to do I suppose



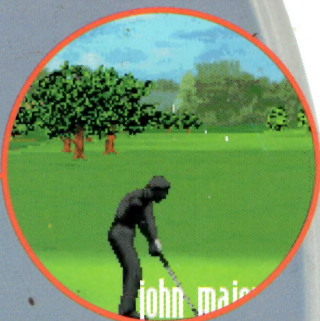
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A demo to help you to decide to upgrade to the latest version of Microsoft's wordprocessor

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